

Contact: Spiros Athanasiou
IMIS / Athena R.C.
Phone +302106875402
Fax +302106856804
contact@imis.athena-innovation.gr

Artemidos 6 & Epidavrou
Marousi, Greece, 15125

IMIS / Athena R.C.



Press Release April 2014

DAIAD is an FP7 project empowering consumers with detailed water consumption knowledge

Athens, April 7, 2014: DAIAD is an FP7-funded research project developing technologies for real-time monitoring, analysis, and understanding of water consumption data, aiming to induce sustainable changes in consumer behavior.

Efficient water management is a challenging issue with the potential to affect the long-term well-being, economy and security of society. Policies for sustainable water management have been established in the EU. However measures to support efficient water use for citizens are currently lacking. Consumers have limited means to accurately monitor their water consumption and thus stimuli to modify their behaviour towards a sustainable lifestyle.

Reductions in energy consumption through ICT technologies are considered a mainstream with well documented and proven benefits. Timely and accurate information, interlinked with human activities, is valuable for reducing resource consumption on a personal level. In contrast, water consumption largely remains unaffected by these advances, in an archaic state. In DAIAD, we will deliver the much needed innovation in the water domain, by complementary research, technological, and policy advances.

The DAIAD project

DAIAD will develop innovative water monitoring technologies that provide real-time water consumption data across all points of residential consumption. Further, in DAIAD we will develop

technologies as well as novel user-friendly interfaces to convey actionable knowledge to consumers in order to reduce their water consumption.

DAIAD will enable consumers and consumer groups to combine and share their water consumption through automated and privacy-preserving tools, in the Web and social networks. The inclusion of social networks contributes to further reductions in water consumption by employing social dynamics and gamification and dissemination of sustainable lifestyles to the social web.

DAIAD will provide novel insight into how, when and why consumers demand water based on highly granular and real-time water consumption data, along with relevant and similarly complex data (e.g. geographical, meteorological, attitudinal). The developed big data management and knowledge extraction tools will convey a profound leap in the technical instruments available for water demand management. This will lead to a better understanding of the hidden correlations and influences for water consumption, enabling new WDM policies and pricing schemes that reflect these findings and solicit even greater reductions in water consumption.

What does DAIAD mean?

In Greek mythology, Naiads were nymphs that presided over fountains, wells, springs, and other bodies of freshwater. Each Naiad protected a specific fresh water source, e.g. Limnades (for lakes) and Potameides (for rivers). Following these ancient naming conventions as inspiration, we have envisioned a new type of fresh water nymph, called **DAIAD** (paraphrasing **data** and **naiad**), which symbolizes the project's objectives.

The nymph DAIAD presides in all *residential fresh water sources, monitoring every drop of water, guiding humans towards a water saving culture, and ensuring that water is well used.*

Expected Outcome

The outcome of the DAIAD project is summarized in the following.

- Low-cost monitoring sensors for residential settings, providing real-time and highly detailed water consumption data.
- Effective feedback interfaces to accurately and timely inform consumers for their water consumption, inducing sustainable behavioural changes.
- Software providing novel analysis and recommendation services for residences based on real-time water consumption data.
- Software providing novel and scalable management, integration, and analysis services for real-time water consumption data, enabling their correlation with relevant big data sources (demographics, weather, GIS) towards exploring, designing and validating Water Demand Management strategies.

- Extensive real-world user trials to test and validate the project's technologies and to generate data offering novel insight concerning the parameters influencing water demand.
- Improved understanding of the parameters influencing water demand in residential settings.
- Quantified and validated benefits regarding the reduction in water consumption and its sustainability as a result of the project's technologies.
- Novel Water Demand Management and pricing strategies based on the knowledge acquired from monitoring and understanding real-time water consumption.

The DAIAD consortium

The project coordinator is **IMIS** (Institute for the Management of Information Systems) from "Athena" Research Center (Greece), a leading RTD institution active in research on all aspects of the Data Economy. IMIS was founded in 2007, with the mission to conduct research in data management and large-scale information systems. IMIS is uniquely positioned in the areas of Database, Knowledge and Information management, focusing on core research topics and cross-disciplinary domains. Its expertise lies in data-driven innovation, applications, and services. IMIS develops the foundations of EU's Data Economy, working on Big, Open and Linked data technologies, contributing to the growth of EU and Greece. Towards this goal, IMIS cooperates with the industry, SMEs, public sector, the open source and the open knowledge communities.

Bamberg University and the team of researchers in the Bits to Energy Lab (B2E Lab) have been actively driving the green information systems scene since 2007. The team focuses on combining ubiquitous computing technologies with insight from behavioral economics to foster a sustainable usage of electricity, heat, fuel, and water. The development of user interfaces, sustainability dashboards and gamification-concepts in the energy context has a long tradition within the Bits to Energy Lab.

Amphiro AG is a cleantech-startup that concentrates on developing and marketing components for the next generation of smart, energy aware faucets. Founded at the end of 2009, the development team from Amphiro designed the existing products and modules from scratch, and successfully launched its first fully *energy-autarkic* product **amphiro a1** in September 2012. Amphiro is the *first company worldwide* offering self-powered feedback devices for energy and water consumption and strives to serve the growing market for smart faucets and water management systems at the point of use.

The **Fraunhofer Institute for Systems and Innovation Research (Fraunhofer ISI)** is part of the Fraunhofer Society for Applied Research in Germany (FhG), a non-profit corporation, promoting applied research and assuring the link between fundamental and industrial research. ISI complements the scientific and technological spectrum of the technology-focused majority of Fraunhofer Institutes through interdisciplinary research in the fields of technology assessment, innovation behaviour, R&D strategies, economic and societal consequences of technologies in fields like energy, transport and water.

Waterwise is an SME, and UK's leading authority on water efficiency, having substantial experience delivering water efficiency initiatives and research projects within the UK and Europe. Waterwise has worked closely with water companies and other stakeholders since its inception in 2005 to develop the evidence base for water efficiency through research and evaluation. Delivering large-scale water efficiency retrofit projects such as Tap into Savings and Save Water Swindon, has developed Waterwise's knowledge of advising and engaging with households.

The **Athens Water Supply and Sewerage Company (EYDAP S.A.)** is the largest of its kind in Greece. The Company serves approximately 4,300,000 customers through an extensive network of 2,020,000 water meters and a 9,500 km of water pipes. The sewerage sector serves 3,500,000 residents with sewers spreading at almost 6,000 km. EYDAP's area of service is the greater metropolitan area of Athens, in which has the exclusive right to provide water-supply and sewerage services in the geographical area of its jurisdiction.

More information

About the project: <http://www.daiad.eu> (live May 2014)

About Athena R.C., IMIS: <http://www.imis.athena-innovation.gr>

Contact

Project Coordinator: Spiros Athanasiou (spathan@imis.athena-innovation.gr)