The problem
Urban water use is expected to constantly increase in the incoming years in major cities all over the world. There is a need for water demand management strategies (incentives, water pricing, awareness campaigns) to be efficient and sustainable technically, economically, and socially. Yet, individual and collective behavioural response to specific water conservation policies might significantly vary with economic drivers as well as socio-psychological determinants within the same urban context.

The project
The SmartH2O project has developed an ICT-based platform that enables water utilities, the municipalities, and citizens, to co-design, develop and implement better water demand management policies, which are based on a shared understanding and motivation by the water users, thus leading to a reduction in water consumption, while not compromising the quality of life. Using quasi-real time measurement from smart water meters, SmartH2O offers a gamified platform to engage customers, and data analytics tools to explore, model and simulate the users' behaviour in response to policy stimuli.

The result
The project developed novel algorithms that model the water users' behaviour, allowing a water utility to simulate and predict water use at the district level. Another field of research focused on the development of gamification techniques to encourage water savings, including the development of Drop! the board game for water awareness. The SmartH2O platform was deployed in 400 Swiss households and to over 40,000 customers in Spain. Outcomes showed notable water savings of around 20% in Spain and 10% in Switzerland.

Contact information
Andrea Emilio Rizzoli
andrea@idsia.ch

Funding agency
European Commission - Research Programme FP7 - Contract Number 619172

Partner
Politecnico di Milano
University of Manchester
European Institute for Participatory Media, Berlin
Set Mobile Srl București
Thames Water Ltd, Reading
Società Elettrica Sopracenerina, Locarno
Moonsubmarine Ltd, London
Universitat Politecnica de Valencia
Global Omnium, Valencia

Research domain
A5. Intelligent systems for knowledge and communications