

04 CASE STUDIES

DONCASTER CASE STUDY

UK case study: The county of South Yorkshire has a history of significant flooding events arising from distinct aspects of the county's topography and its network of river catchments. The area is liable to fluvial (river), pluvial (rain induced) and marine (sea) flooding caused by heavy rainfall in the catchment and tidal fluctuations and potential floods from dam failure. Currently 25,000 properties in Doncaster are at risk from River Don flooding. WeSenseIt will support new and established citizens' networks communities and emergency services by enabling (i) new forms of citizen participation and (ii) a more timely and effective reaction to adverse events. This should have a tremendous impact on the decision-making process leading to a dramatic reduction in social and economic costs.

ITALIAN CASE STUDY

Italian case study: The high plain areas of the river network draining to the cities of Padua and Vicenza (Alto Adriatico) are characterized by an extraordinary wealth of water resources, due to its geological formation and a very close relationship between surface water and groundwater feeding regional aquifers. The area presents regular severe flood risk. WeSenseIt will provide a vital contribution to the water resources planning and management, and flood and drought forecasting, as it will empower citizens to observe and understand water related risks and contribute to/adopt appropriate policies.

DUTCH CASE STUDY

Dutch case study: The surface water system in and around the city of Delft is liable to regular severe pluvial flooding. The water board needs to gather more real-time information on the state of the water system than it currently possible with the existing in-situ monitoring network. All stakeholders need more timely and local warnings for short-term event management, and more and easier exchange of information about the operation of the water system. WeSenseIt will support the Delft Water Board in providing timely monitoring and forecasting of the water lifecycle events.

CONTACT US

Coordinator :

The Univeristy of Sheffield
Comuter Science Department
Regent Court
211 Portobello
Sheffield
S1 4DP

Professor Fabio Ciravegna
f.ciravegna@sheffield.ac.uk



twitter.com/wesenseit



facebook.com/wesenseitproject



WESENSEIT
CITIZEN WATER OBSERVATORIES



WWW.WESENSEIT.EU



02 OUR OBJECTIVE

PREDICTIONS INDICATE THAT OVER THE NEXT 70 YEARS THERE WILL BE A DOUBLING IN BOTH THE NUMBER OF PEOPLE AFFECTED BY FLOODING EACH YEAR (TO 0.5-0.8 MILLION) AND IN THE ANNUAL DAMAGES (INCREASING TO 7.7-15 BILLION €) (DISCAR 2009).

WeSenseIt develops citizen observatories of water to harness environmental data and knowledge to effectively and efficiently manage water resources. Observatories allow citizens and communities to take on a new role in the information chain: a shift from the traditional one-way communication paradigm towards a two-way communication model in which citizens become active stakeholders in information capturing, evaluation and communication. Areas of research concern physical and social sensors, heterogeneous sensor networks and water models, and methods for participatory decision support in water management. Citizen and stakeholder groups are involved throughout the project; theoretical and conceptual social models are developed to better understand citizen motivation and engagement, their needs, abilities, preferences and potential for input into decision-making processes.

WeSenseIt enables the direct transfer of environmental (water-related) knowledge for use by policy makers, industry and research as well as society to effectively and efficiently manage water resources.

WeSenseIt is a Collaborative project funded by the EU FP7-ENV- 2012 call project number 308429.

WeSenseIt develops an interdisciplinary concept on the basis of three different aspects of community participation in water governance: 1) environmental non-structured data collection via optimized networks of sensors as well as information provided directly by citizens (measurements, images, messages) and via mining of social media portals 2) development of descriptive and predictive models (both physical/natural and social) and decision-making tools that will be able to optimally assimilate both social and physical data 3) two-way feedback and exchange of environmental knowledge/experience between citizens and authorities for decision-making, planning and governance.

We base data capture on: (i) innovative sensor devices which can be used directly by the citizens and (ii) exploitation of the citizens' collective intelligence through monitoring social networks communications (e.g. Twitter, Facebook, etc.) and allowing citizens and communities to upload data to the observatory. From a technical point of view, the project creates and deploys a method, an environment and an infrastructure supporting an information ecosystem for communities and citizens, as well as emergency operators and policymakers, for discussion, monitoring and intervention on water bodies and services.

The predictive models and decision support tools are integrated and able to continuously assimilate data originating from citizens, Web/text mining and sensors in an optimal and adaptive way. Theoretical and conceptual social models will be developed to better understand citizen motivation and engagement, their needs, abilities, preferences and Potential for input into decision-making processes. Exchange of experience and feedback ensures innovative continuing user involvement and community creation and maintenance.

03 THE PEOPLE

OUR CONSORTIUM OF 14 PARTNERS FUNDED BY THE EUROPEAN COMMISSION WITH PARTNERS ACROSS ALL SECTORS OF RESEARCH, INDUSTRY AND GOVERNMENT.



The University Of Sheffield.



Software Mind

