IC4WATER RDI FUNDED PROJECTS BOOKLET

Project: IoT for Supervision and Control of Water Systems

Acronym: IoT.H2O

Outcomes and expected impact:

Outcomes:

- low cost system for monitoring and operation of water distribution systems
- applicability of IoT based approaches for the cost effective operation of small water systems
- manufacturer independent computer platforms
- digital hydraulic water system modelling and artificial intelligence implementations
- digital twin technology for prototyping and testing and as an operational support tool
- potential and limits of model-predicitve decentralized controls and decentralized artificial intelligence
- pressure management and leak detection to reduce water losses
- achieve access to safe and affordable drinking water for all
- increase water-use efficiency

List of deliverables expected:

- IoT-System in laboratory scale
- Pilot installations in real water utilities in Germany, Brazil and Belgium
- Front-end applications for data storage, data processing, hydraulic modelling
- Visualization and system operation by use of personal computers, tablet computers or smartphones
- Virtual twins of the water systems for testing of system components and their interaction
- IoT-system will contribute to water loss reduction, reduce impacts of water scarcity, simpler maintenance strategies and strengthening of water systems resilience

Expected research results to communicate and disseminate (in very general terms)	**Target groups for communication and dissemination activities:**
IoT system in laboratory scale is running	Operators and designers of water distribution systems
Field tests of single IoT nodes have started	Associations of water utilities
Field test of IoT system has started	

Experiments / Case studies (if any): location, type of experiments:	Pilot installations of IoT sensors in water supply systems in Germany, Belgium and Brazil
Water Policy context / project contribution to policies (National, European, International – UN SDGs):	Challenge 2, Sub-topic-2.a: Developing systems for universal and equitable access to safe and affordable drinking water for all: Assessing the impact of water scarcity on safe drinking water in an increasing demography context: Developing low cost, low maintenance technology for the water management sector in developed and developing countries. UN Sustainable Development Goal 6: “substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity” “expand international cooperation and capacity building support to developing countries in water- and sanitation-related activities … including … water efficiency