SAFEWATER
Detection and mitigation of Chemical Biological Radiological Nuclear events in drinking water

The SAFEWATER Project aims to develop a comprehensive and pragmatic platform to manage the safety and security of drinking water. The Event Detection and Management System feature real-time detection and response capacities to respond quickly and effectively to CBRN related drinking water security crises, whether accidental or malevolent. Threats to water security are increasing and water security can be compromised by a range of different threats and scenarios and no reliable tools are available today.

Development in a user-driven process featuring: New water quality sensors and integration of vast use of domestic sensors for improved monitoring; Improved water management models detecting abnormal behaviour in drinking water systems; Spatial detection models and simulators determining the source of the contamination and its spread.

The solution

The Event Management System response to water quality events generated by the EDI

Events Management System

Network Modelling
Offline Training Simulator
Online Look-ahead Simulator
Model Detection Models

Indicators and Intelligence Reports + GIS Presentation

Event Detection System

Virtual Sensors

Network Modelling

Information Systems

Simulators: Hydraulic and water quality simulators support the online identification of contaminant sources in real time. They can also provide an estimation of the contamination severity and the impact of mitigation and recovery measures by means of look-ahead calculations. In an offline context these simulators are used for the analysis of different contamination scenarios in order to get a better understanding of the water network behavior. Data from event simulations will be used to train the event detection system.

The Virtual Sensor Model - Water quality is measured at known locations by Domestic Sensors (DS) and network sensors and reported every few hours. The Event Detection System (EDS) builds according to the measurements predictive model and confidence intervals that are transmitted to the DS, which alerts if confidence intervals are violated.

Spatial Model - aims to detect water abnormality based on relation between different measurements in different network locations. Relation should obey chemical and physical constrains and stay constant if there is no contamination event. If contamination occurs somewhere between the source and the destination, the normal relations will be violated.

Practitioner, policy or decision maker, researcher, expert, interested in CBRN and safe drinking water?
SAFEWATER Community involves a broad range of stakeholders from the world of drinking water and CBRN to support the exchange of ideas and share knowledge on the latest developments

IF YOU ARE INTERESTED in receiving updates on the drinking-water safety world - JOIN THE SAFEWATER COMMUNITY

http://safewater-project.eu

Contact Us

Project Coordination Team safewater-coordination@eurtd.com
Anna Ellinge Madar, ARTTIC – Project Coordinator +372 3 373 2010
Thomas Bernard, Fraunhofer IOSB – Scientific Coordinator +49 721 6091 360

This project has received funding from the European Union’s Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 312764