SCOREWATER, A WATER-SMART SOCIETY

We all depend on water. In the industrialized world, we take clean water for granted. When water management fails, the consequences to the public and to the economy can be large. SCOREwater will enhance the resillience of cities against climate change and mass urbanization by enabling a water-smart society. This society is playing part in solutions for climate change, adressing several of the Sustainable Development Goals.

THREE CASES

Besides the Göteborg Case described below, we have the **Barcelona Case**, which focuses on **reduce wastewater management problems** with the vision of improving health. The **Amersfoort Case** focuses on **improving the detection of flash floods while reducing environmental impacts.**

how do we control the wastewater overflows?

Göteborg Case · Industrial

WATER-SAFE INFRASTRUCTURE AND CONSTRUCTION PROJECTS

Aim: To develop and implement a generic concept for minimizing negative impact of constructing projects on quality of urban wastewater. To test the concept based on monitoring with commercially available and newly developed water quality sensors and data interpretation techniques, implemented at the West Link construction project in Göteborg, Sweden. To raise public awareness of urban surface water quality and promote water-friendly behaviour thus fostering a water-responsible society.

Approach: To monitor stormwater pollution levels for West Link construction site by connecting water quality sensors to the SCOREwater platform and to analyse and interpret the data using artificial intelligence. To assist optimizing of the on-site water treatment stations, which is employing "blue-green" technology using a crab shell waste by-product called Chitosan, with the newly gathered monitoring data. To identify problematic geographical areas, periods of time and risk factors by extending the water quality monitoring using sensors up- and downstream the construction sites and in recipients. Apart from monitoring the water quality, monitor also stormwater volumes and sewer overflows with cost effective wireless sensors for mass deployment in compliance with the Wastewater directive.

Outcomes: A water monitoring and management system for assisting and ensuring legal compliance of the waste water quality (Weser judgment, Wastewater directive) during construction projects. Map-based web and app interfaces to provide the public, businesses and local government with an interactive information platform for construction site water quality and quantity. Science park activities to raise public awareness about the water cycle in general and waste water from construction sites in particular, to promote water friendly behaviour.

Innovation beyond the case: Provide new tools to the digital market for monitoring compliance with the Water Framework Directive, Weser judgment and Urban Waste Water Treatment Directive.

Innovation is pushed by:

i) Increased resolution in stormwater monitoring, both in space (more sensors) and in time (real-time data automatically transferred to the SCOREwater platform),

ii) Prediction of local pollutant levels based on other measurements using machine learning,

iii) Open data, map-based and app interfaces, scalable to other urban and rural areas, providing a timely overview of status of the stormwater and wastewater systems as well as water body recipients.

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement no 820751