



Grant Agreement number: 816966

Acronym: AQUA-REUSE

Type of the action: SME Instrument Phase 1

Start date of the project: 1st May 2018

Duration of the project: 6 months

EXCELLENCE

SUMMARY

The Threat to Water Infrastructure & Industry: AQUA-REUSE & AQUATRACK® are two separate novel product lines 1) online real-time monitoring of micro contaminants, dynamic sampling at the time of contamination (early warning system) and 2) online removal of contaminants by ozone polishing for security and safety of treated waste water & drinking water.

Target contaminants are pathogens, pharmaceutical and organic residues. The aim of this project was to investigate the possibilities of combining these two systems together and development of water management, communication through an IoT digital platform. Monitoring of effluent waste water treatment by MBR, MBBR and SBR are the target application. Lack of legislation, ignorance and outdated random, collective random biological and chemical sampling method and their results are having no effect on real-time events in water treatment. This amplifies the risk of both biological and chemical contamination in water bodies and our environment.

During the Phase 1 validation process we have visited several national, international conferences, participated in discussions, met researchers from different institutes and countries. We visited and talked to Swedish municipal utilities and met several big and small water companies to understand the driving forces for a change across the industry. These meetings were used to identify the attitudes towards our new ideas and the level of interest for bringing new technology to market.

It has become very clear during this Phase 1 that one key factor is that we need to combine AQUA-REUSE & AQUATRACK® and demonstrate our technology together with an end user (drinking water & waste water treatment plants) to showcase the benefits of our system.

- ❑ Water born contamination in drinking, source and recycled water is a serious threat to water infrastructure, consumers, and for industrial process water. *Threat of contamination can be avoided in our water infrastructure by adopting AQUA-REUSE & AQUATRACK®*
- ❑ Early detection and warning for bacteria like *E. coli* and parasites like *Cryptosporidium* and *Giardia* and pharmaceutical residues and organic compounds can improve the living conditions of many people.

Our Early Warning System AQUATRACK® is created to mitigate the substantial threat from contamination of water in combination with modular ozone polishing system to provide a powerful process for water quality management. Our vision for the future, is to combine AQUATRACK® with our modular ozone polishing system to ensure cost effective online monitoring, sampling & elimination of pathogens and pharmaceutical residues in water. AQUATRACK® is EU ETV verified.