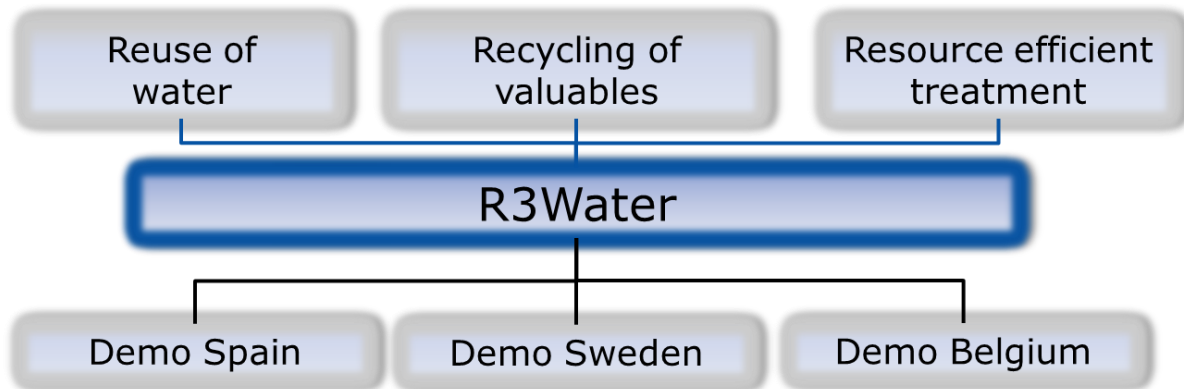


## R3Water

Demonstration of innovative solutions for Reuse of water, Recovery of valuables and Resource efficiency in urban wastewater treatment



### Collaboration partners

Sweden: IVL Swedish Environmental Research Institute (Coordinator), Aqua-QAB

Spain: ADASA Water and Environment Technology, ICRA-Catalan Institute for Water Research, Teqma – Technologies and Equipment for the Environment

Belgium: AquaFin N.V.

Germany: Dechema Gesellschaft für Chemische Technik und Biotechnologie E.V., AVA-CO2-Forschung GmbH

Finland: VTT Technical Research Centre of Finland, Ekolite Oy

Norway: Prediktor

United Kingdom: Perlemax United

### Summary

The EU project R3Water aims to demonstrate different innovative technologies supporting the conversion and upgrading of wastewater treatment plants into production units to provide energy, nutrients, water for reuse and possibly other valuables.

Different technologies will be demonstrated at 3 demo-sites in northern, central and southern Europe.

### Description

Different types of technologies and innovative solutions are further developed and tested at the demonstration sites that are located in Belgium, Spain and Sweden. The technologies are divided in three categories; **Reuse of water**, **Recycling of valuables** and **Resource efficient treatment**. In total 10

different technologies are demonstrated at the different demonstration sites. At the Swedish demonstration site; Hammarby Sjöstadsverk, a total of six technologies are installed. These are:



**R**euse, **R**ecovery and **R**esource efficiency,  
Innovations in urban wastewater treatment

- On-line water monitoring, control and automatic sampling integrated with an ozonation system for disinfection
- Reduction of aeration energy by fluidic oscillation technology
- Increased methane content in biogas from anaerobic digestion by fluidic oscillation technology
- Anammox process control system for resource efficient nitrogen removal
- Removal of pharmaceutical elements in effluent wastewater
- Model based predictive control for resource efficient wastewater treatment

The technology demonstration in R3Water is accompanied by activities for a more parallel and direct market acceptance in European countries, e.g. by dissemination activities and the concept of European Technology Verification (ETV) that is directly integrated in the demonstration process.

### Goal

The main objective of R3Water is to use demonstration of innovative technologies that support the transition from a treatment plant for urban wastewater to a production plant of different valuables in order to facilitate their development and market uptake.

### Expected benefit

The expected benefits of R3Water are demonstrated new solutions for reuse of water, recovery of valuables and resource efficient wastewater treatment at three geographically different demonstration sites. The technologies will allow to:

- Reduce energy use in wastewater treatment plants
- Secure water quality for possible re-use
- Support re-use of nutrients
- Increase treatment plant performance

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