



Reuse, Recovery and Resource efficiency,
Innovations in urban wastewater treatment



This project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No 619093

R3Water

demEAUmed final conference

Barcelona May 18th 2017

The project

- **R3Water** - Demonstration of innovative solutions for Reuse of water, Recovery of valuables and Resource efficiency in urban wastewater treatment
- Total budget 7.5 MEuro
- Project duration January 1st 2014- June 30th 2017
- 12 partners (6 SMEs)

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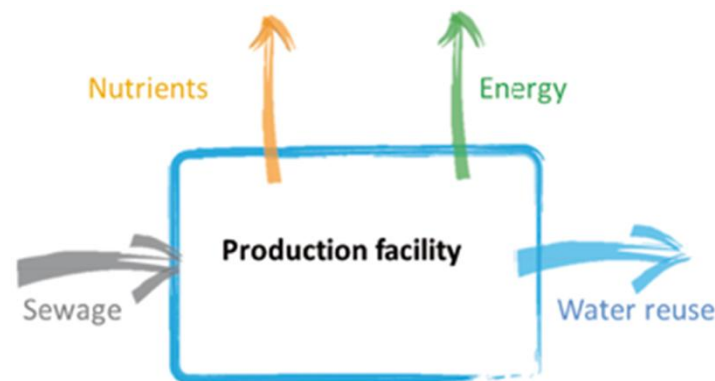
- Belgium: *Aquafin*
- Finland: *VTT, Renotech*
- Germany: *DECHEMA, AVA-CO2*
- Great Britain: *Perlemax*
- Norway: *Prediktor*
- Spain: *Adasa, Icra, Teqma*
- Sweden: *Aqua-Q, IVL*



Map adapted from <http://ppt-toolkit.com>

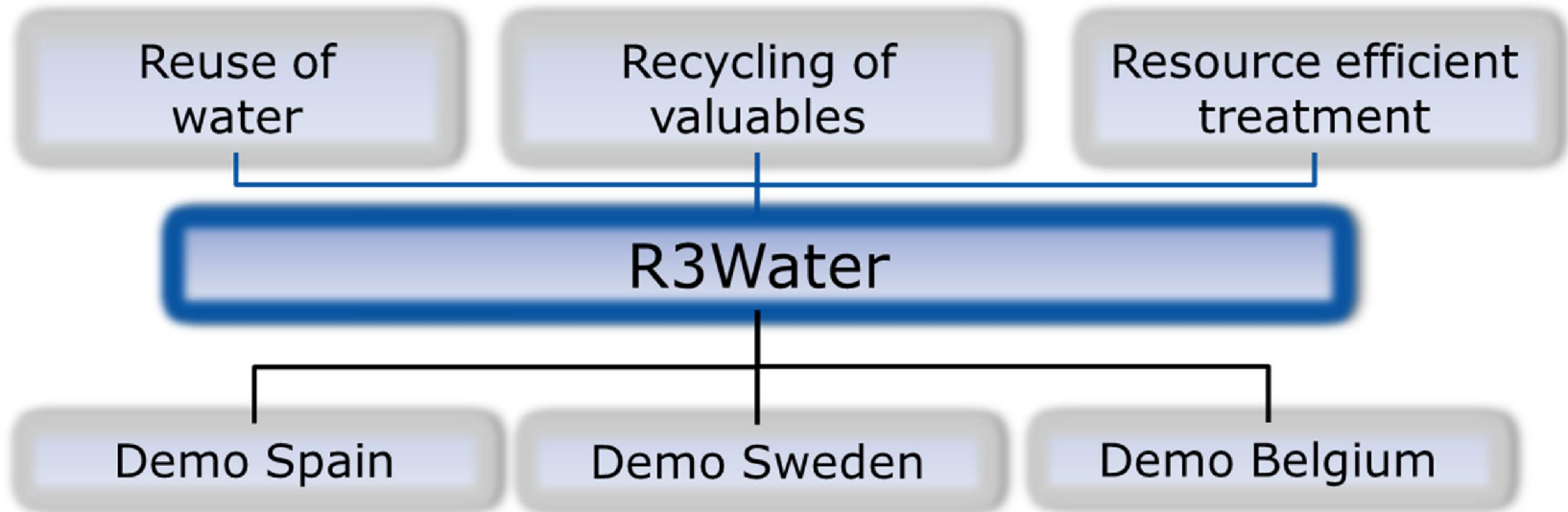
Waste Water Treatment Plants (WWTP)

- WWTP today – meeting requirements
 - A significant energy user
 - Emissions of greenhouse gases
 - Effluent might still contain viruses, pathogens and other unwanted contaminants
 - Generated sludge is a problem
- WWTP in the future – a production/resource facility
 - Net energy production
 - Recovery of nutrients (spec. P)
 - Resource efficient treatment
 - Improved treatment results
 - Water reuse
 - Generated sludge/waste is a resource



Project objectives

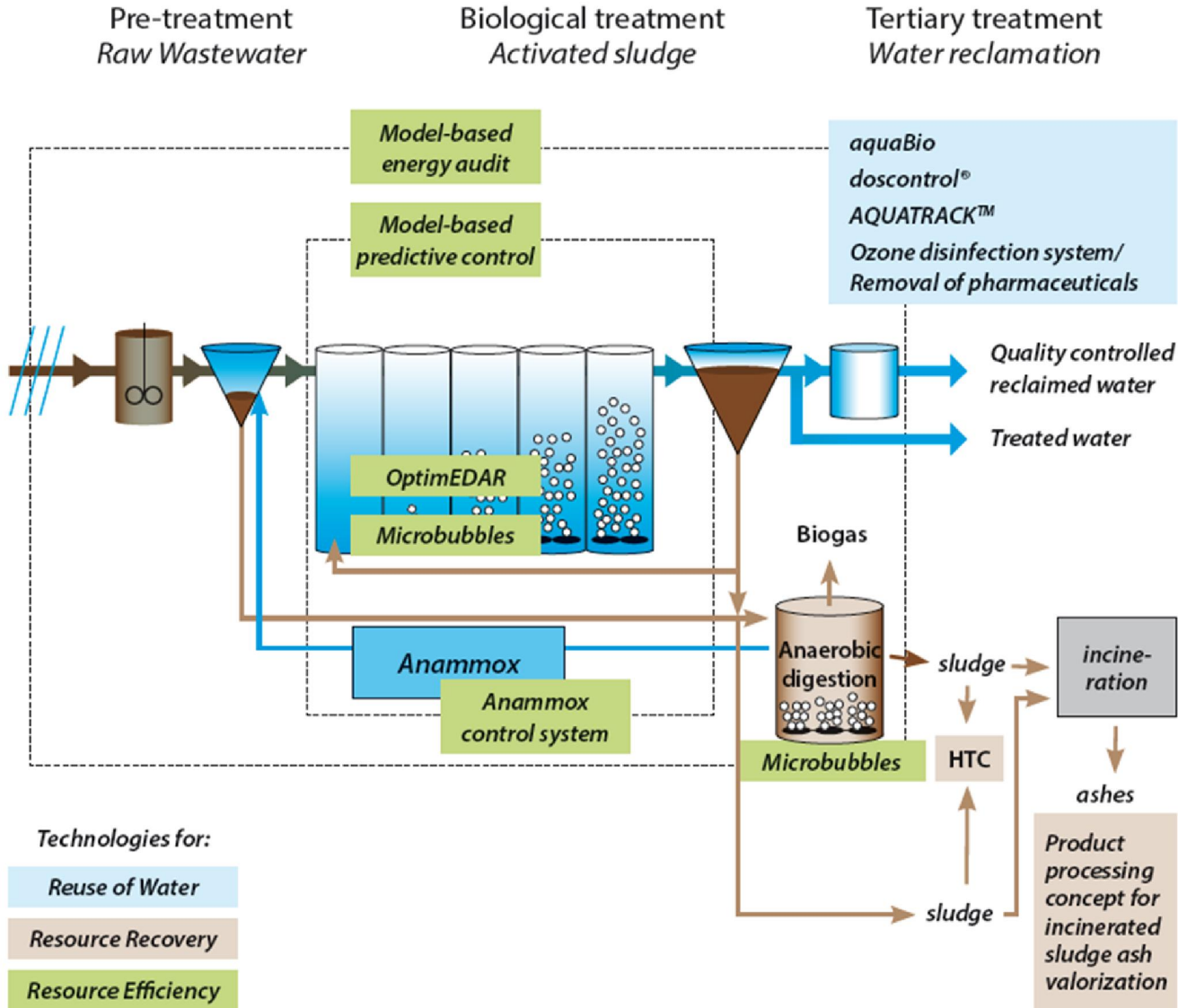
- To support the transition from an urban wastewater treatment plant to a production unit of different valuables by demonstrating new solutions to address main challenges
- To facilitate the market uptake of these innovative solutions



Included technologies

- Water reuse
 - aquaBio (Adasa)
 - doscontrol (teqma)
 - AQUATRACK (Aqua-Q)
 - Removal of pharmaceutical residues (IVL)
- Resource efficiency
 - optimeEDAR (Adasa)
 - Fluidic oscillation generation microbubbles (Perlemax)
 - Anammox control system (Aquafin/IVL)
 - Model based predictive control (Prediktor)
 - Model based energy audit (ICRA)
- Resource recovery
 - Hydrothermal carbonisation (AVA-CO2)
 - Incinerated sludge ash valorisation (Renotech)

Technologies



Main achievements

- Demonstration/operation of technologies in real life environment
 - Improved technology development
 - Improved readiness for the market
 - Dissemination of technologies in operation
- Possible contribution to improved energy efficiency, resource recovery and water re-use
- Improved market awareness for partners
- Input to policy development

Main achievements

- One EU Environmental Technology Verification (EU ETV) finished for technology AQUATRACK™
- Two EU ETVs started, for aquaBio and HTC
- WssTP Water Innovation Award 2016 to AQUATRACK™
- Aquafin to prolong demonstration of optimEDAR due to positive demonstration results
- Aquafin in discussion with AVA-CO2 for possible HTC installation

Final conference

- R3Water final conference in Brussels on May 30th
- Register and more info at www.r3water.eu
- Welcome!