

Innovative and sustainable technologies for urban and industrial wastewater treatment



Neptune and Innwatech End User Conference

January 27th, 2010

Congress centre Het Pand
Onderbergen 1, 9000 Gent, Belgium

Opening of the conference

Prof. Dr. Ir. Boudewijn Van De Steene
AquaFin nv

Water supply and sanitation in Europe



Europe has pioneer role water supply and sanitation services

- Great competitive strength
 - Innovative supply and sanitation concepts
 - Wide experience in many industrial sectors

EU policy on sustainability, environment and energy

- Close cooperation with R&D organisations
- Active involvement in R&D Framework Programmes
- E.g. Neptune and Innwatech

Water sector needs to invest in innovation to remain forefront

- Global demographic trends
- New legislation
- Increased focus on quantity and quality of effluents



Sustainable water management



WWTP's = source of valuable resources

- Reclaimed water
- Energy
- Nutrients

EU 7th FP theme Environment



European Research needs



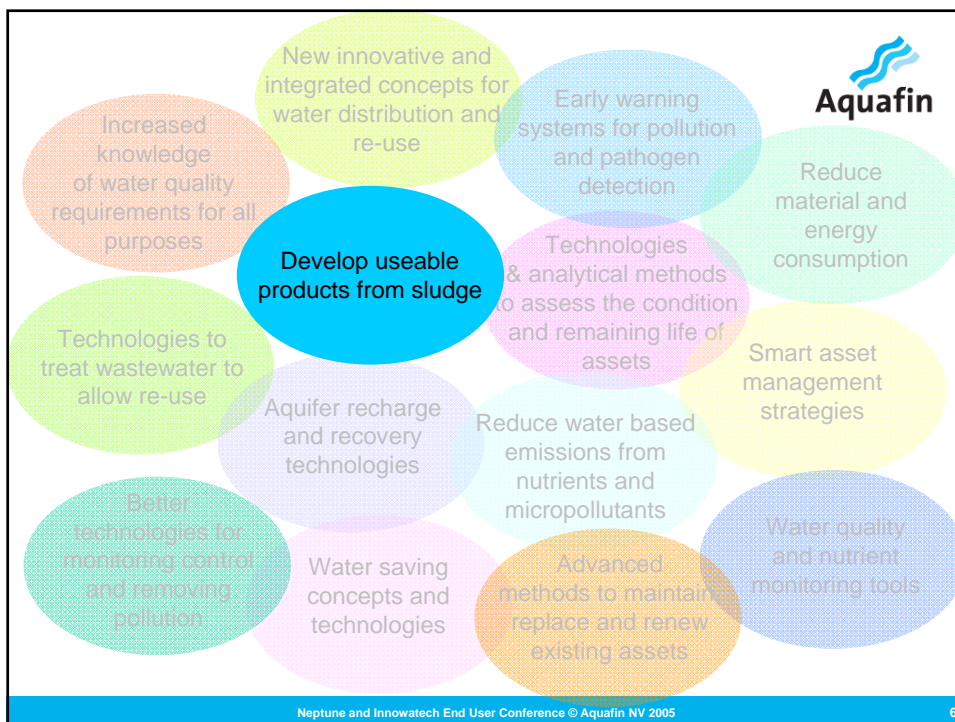
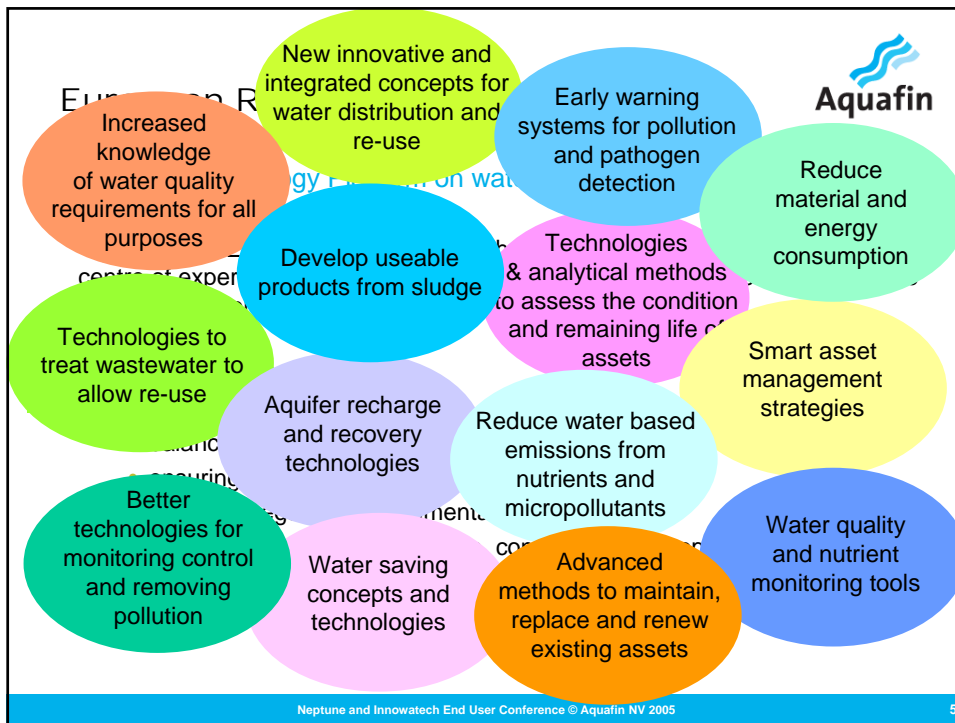
European Technology Platform on water supply and sanitation (WSSTP)

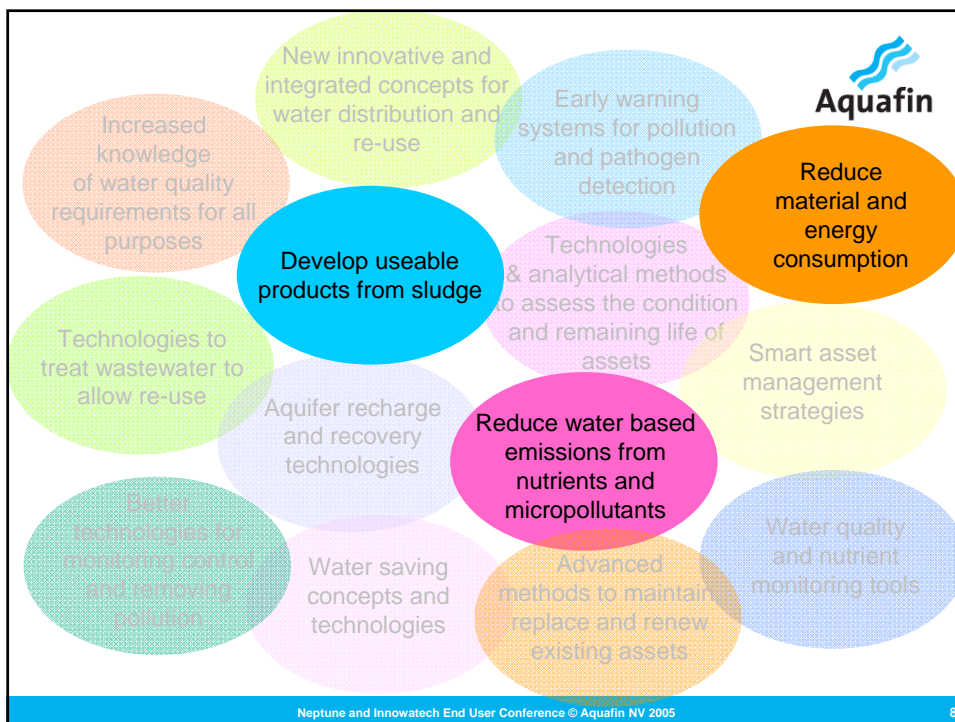
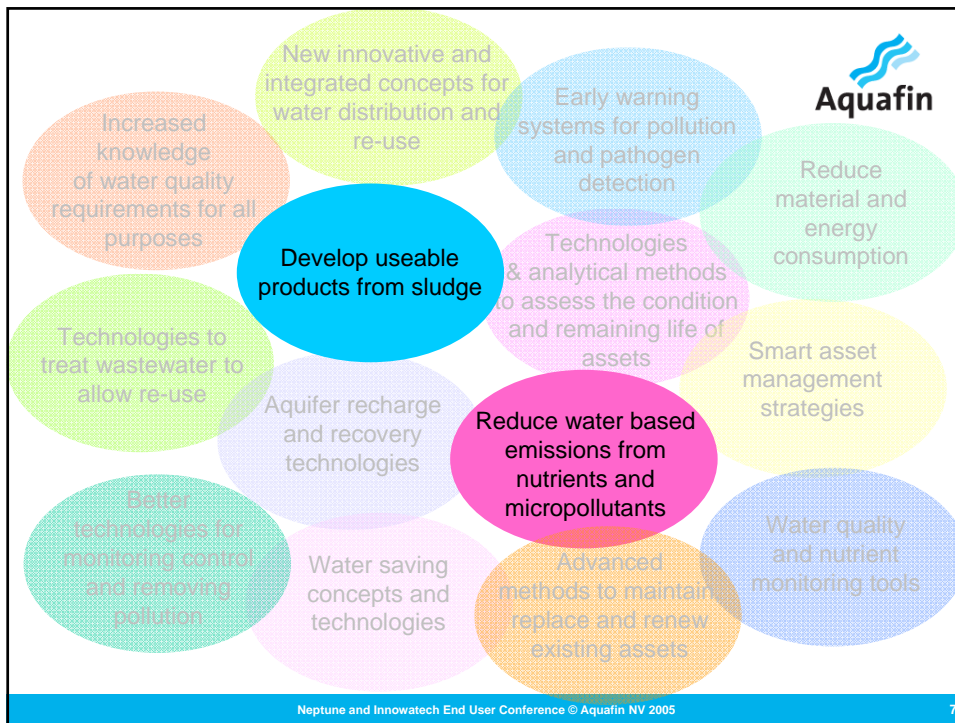
“by 2030, the European Water Sector should be the leading international centre of expertise for providing safe, clean and affordable water services while protecting the environment.”

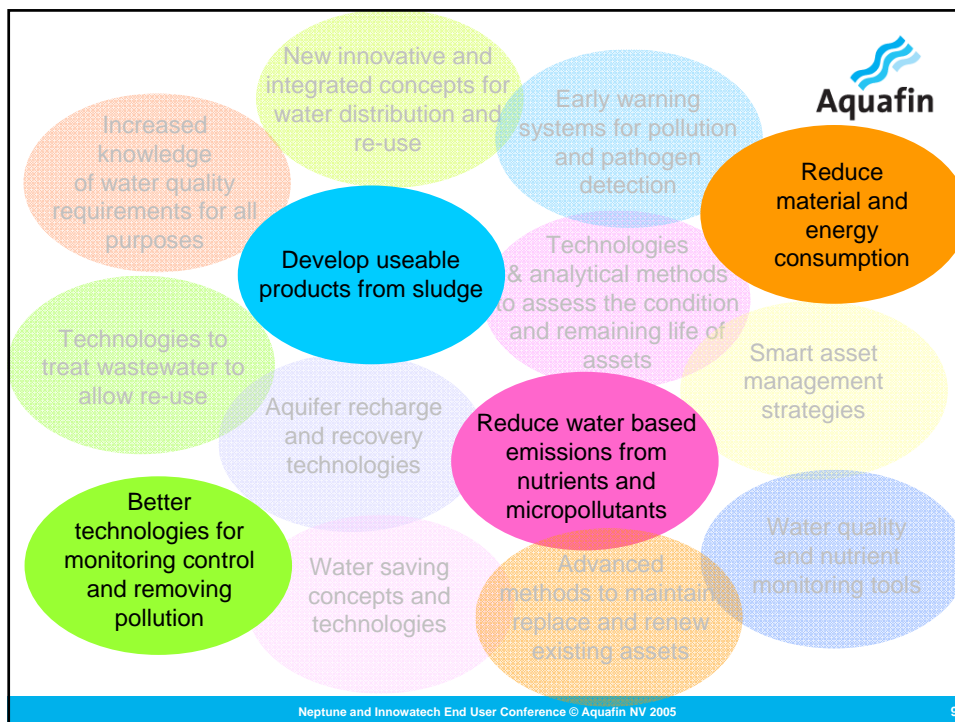
5 key research drivers:

- balancing demand and supply
- ensuring appropriate quality and security
- reducing negative environmental impacts
- novel approaches to the design, construction and operation of water infrastructure assets
- establishment of an enabling framework









Aquafin

Programme morning session

9:00-9:10	Official opening of the conference <i>Prof. dr. ir. Boudewijn Van De Steene, Aquafin nv</i>
9:10-9:20	Introduction <i>Antonio Lopez, CNR-IRSA, Italy</i> <i>Hansruedi Siegrist, EAWAG, Switzerland</i>
9:20-9:50	Micropollutants and ecotoxicity in municipal WWTP effluents: an overview <i>Arne Wick, BfG, Germany</i>
9:50-10:20	Ozone-enhanced granular sludge sequential biofilter for the treatment of mature municipal landfill leachates <i>Claudio Di Iaconi, IRSA, Italy</i>
10:20-10:50	Coffee break
10:50-11:10	LCA and nutrient removal <i>Joris Roels, Aquafin nv, Belgium</i>
11:10-11:30	Biorecalcitrant industrial wastewater treatment by integrating advanced oxidation and biological processes <i>Sixto Malato, Plataforma Solar de Almería, Spain</i>
11:30-11:50	Sustainable sludge handling <i>Giuseppe Mininni, CNR- IRSA, Italy</i>
11:50-12:10	Optimisation of landfill leachate treatment in a moving-bed biofilm system by means of reactor staging and controlled ozonation: the BIOZO concept <i>Benedek Plosz, NIVA, Norway</i>

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Programme afternoon session



Innowatech session		Neptune session	
13:40-14:20	Advancements in Aerobic Granular Biomass processes <i>J. Keller AWMC, Australia, A. Giesen, DHV, Holland</i>	13:40-14:00	Sludge liquid treatment with combined nitrification/anammox <i>Adriano Joss, EAWAG, Switzerland</i>
14:20-14:40	Integrated MBR and AOP processes for organics removal from pharmaceutical wastewater <i>Giuseppe Mascolo, CNR-IRSA, Italy</i>	14:00-14:30	Full-scale ozonation of WWTP effluent followed by sandfiltration <i>Saskia Zimmermann, EAWAG, Switzerland</i>
14:40-15:00	Heterogeneous photo-Fenton system for solar degradation of organic pollutants <i>Felicien Mazille, EPFL, Switzerland</i>	14:30-15:00	PAC addition to remove micropollutants : promising flow schemes <i>Ben Zwicklenpflug, EAWAG, Switzerland</i>
15:00-15:20	Recovery of phenols by membrane contactors <i>Christoph Bayer, RWTH, Germany</i>	15:00-15:20	Sewage sludge treatment by ultrahigh-temperature sludge pyrolysis <i>Natalija Miladinovic, EAWAG, Switzerland</i>
15:20-15:50	Coffee break		
15:50-16:10	Membrane chemical reactor for industrial wastewater treatment <i>Bruce Jefferson, Cranfield University, UK</i>	15:50-16:10	Microbial Fuel Cells: applications and prospects <i>Jurg Keller, AWMC, Australia</i>
16:10-16:30	Modelling and comparing the environmental efficiency of new and existing technologies to treat toxic wastewater <i>Mats Almemark, IVL, Sweden</i>	16:10-16:30	Production of bioplastics as by-products of waste treatment <i>Fernando Morgan, AnoxKaldnes AB, Sweden</i>
16:30-17:00	<p>Keynote lecture: Exit conventional activated sludge approach Willy Verstraete, University Ghent, Belgium and Jurg Keller, AWMC, Australia</p>		