

‘Innovation and Water Efficiency’- a technical symposium

International perspective

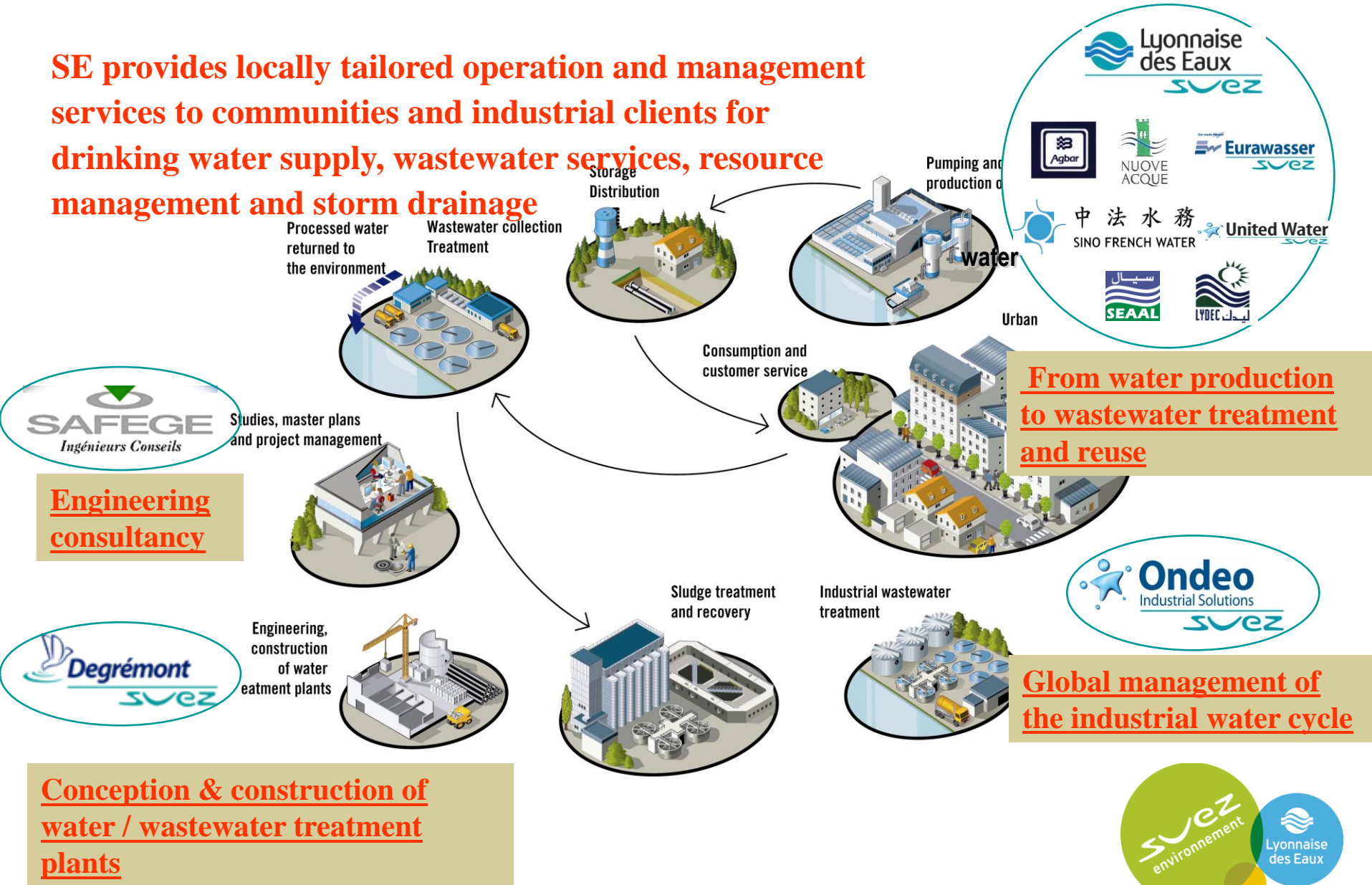
***Dr Daniel Villessot
Scientific Director
Suez-Environnement/ Lyonnaise des Eaux
France***

daniel.villessot@lyonnaise-des-eaux.fr



Water : our expertise, a range of services

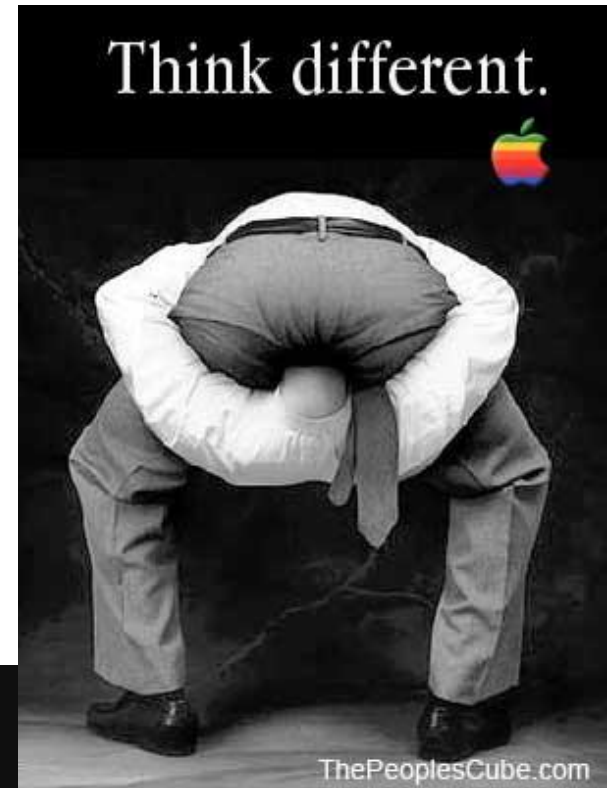
SE provides locally tailored operation and management services to communities and industrial clients for drinking water supply, wastewater services, resource management and storm drainage



'Innovation and Water Efficiency'- a technical symposium

1. What does innovation mean to me as an individual and as a group?
2. What are the key challenges for the water sector?
3. How do we think innovation can address those challenges?
4. Do we think innovation should be a priority for the water industry?
5. How important is innovation to drive our industry today?
6. How do we link innovation and water efficiency in our activities to improve our services?
7. How critical is water efficiency for the future in the wider innovation agenda?





Think different.



'Innovation and Water Efficiency'- a technical symposium

Innovation and Suez-Environnement Group (Water)

- Certainly part of the corporate culture
 - **Membranes and Water treatments (ozone, GAC, ...)**
 - **Energy from wastewater**
 - **Underground Asset management**
 - **Sustainable development and our businesses**
 - **Global changes and our core businesses**
- Dedicated structures:
 - **R+i ALLIANCE: SE, LDE, UW, AGBAR, NW**
 - **CIRSEE, DENARD, CETAQUA, NWTC, SCIP**
 - **CTC, CTL, CTA**
- Dedicated budgets:
 - **52M€ (2006), 65M€ (2007), ...80M€ (2009)/ 6.4MM€ T.O.**



'Innovation and Water Efficiency'- a technical symposium

- **What are the key challenges for the water sector, today?**
 - Pressures from:
 - Global change (climate, population growth, urbanisation)
 - Regulations (EU, national, local)
 - From water resources to customer perception of the quality of our services
 - 8 programmes open in R+i ALLIANCE (AM, EN, SW, SL, EST, WRM, Cust. Percep., and
 - Water Demand Management)



'Innovation and Water Efficiency'- a technical symposium

- **How innovation can address those challenges?**
 - R+i efforts, structures, budgets aren't sufficient!
 - Time to business, and readiness for implementation
 - Innovation coming from the Field and HQ:
 - PAMELA for Customer information in case of water shortages
 - WATER GOOD TO DRINK (Panels of water « tasters »)
 - EDELWAY (biodiversity, GHG, natural resources)
 - GREEN CUBES (energy savings, energy from wastes)
- **Certainly a priority** in a very challenging world (competition, drivers: GC, Regs, Customers)



Water Efficiency

Adopting an Integrated Approach to Tackle Water Loss and Encourage Sustainable Usages

- **Analyzing trends and Evolution of Water Consumptions**
 - Some increases (UK, but DEFRA asking for pcc reduction!)
 - Many decreases (FR, DE, NL, DK...)
- **Evaluating the Impact of Climate Change on Water Resources**
 - COM Water Scarcity and Droughts
 - Domestic Usages vs Agricultural and Industrial Usages
 - Adjust all water abstractions to the available quantities
 - Promote when necessary alternative sustainable solutions:
 - Re-use
 - Recharge
 - Desalinisation



Water Efficiency

Adopting an Integrated Approach to Tackle Water Loss and Encourage Sustainable Usages

Using Tools and Actions to Encourage Sustainable Usages

– At Water company level

- Real time tracking of leakages (AVERTIR, AVIZEAU)
- Sustainable Economic Level of Leakage
- Alternative sustainable technologies: re-use, recharge, desalinisation
- Communication to promote water conservation measures

– At End-User level

- Water consumption in France has decreased by 15% during the last 15 years
- Prevent any wastage of drinking water
- Communication with customers
- Implement appropriate and sound water devices at household level (env., safe & cost effective)



‘Innovation and Water Efficiency’- a technical symposium

How critical is water efficiency for the future in the wider innovation agenda?

Dunkirk Urban Community

Experimental & observation workshops on sustainable development and information & communication technologies



‘Innovation and Water Efficiency’ - a technical symposium

- 1. Dunkirk's Urban Community (DUC) context**
- 2. A shared assessment**
- 3. The DUC's territory, meeting point for ICT and sustainable development**
- 4. From insight to action**
- 5. Benefits for the territory and for the Group**
- 6. Experimentation and observation workshops**



The shared assessment

The EU encourages member states to deploy ICT-based tools in order to reduce energy consumption

A MEEDDM* paper highlights ICT contribution to sustainable development

Energy and water are the 2nd largest household expenditure

→ There is a need for piloting & expense management tools, and for tools that support change in behaviour

*MEEDDM: French Ministry in charge of Environment



Dunkirk's general data

- **Urban area: 225.761 inhabitants provided with drinking water**
- 17.547.719 m³ pumped from the aquifer in 2008
- 973.153 m³ sold in bulk to neighboring communities
- 13.540.801 m³ sold to 100% metered domestic, commercial and industrial customers
- 5.219 people only made directly aware of tap water quality through events & facility visits
- Regular leakage search campaign through the use of tracer gas
- **Network yield: 81.8%; Linear loss index: 5.83 m³/km/j**
- **Supplied water is 100% compliant with drinking water standards (French and European ones)**
- **Overall Customer satisfaction rating: 7.2 / 10 (nation-wide highest)**
- **Deployment of AMR on the territory**



Dunkirk territory: meeting point between ICTs and sustainable development

- DUC's commitment to an affirmative policy in favor of sustainable development
 - Dunkirk 2010, sustainable development crossroad
 - 6th European conference on sustainable cities
- A proactive policy for the territory's digital development
 - The DUC will have deployed a 162 km high-speed optic fiber network by 2010
- An experiment for a hybrid ICT and sustainable approach: DOMITIL
- ***Water services at an affordable cost for Customers***



From assessment to action

- Communities and actors from the utility industries, both public and private, must take an active role in the development of tools and supportive policies in the interest of sustainable development.

The Dunkirk Urban Community and the Group join forces for:

The development of nationwide experimentation & assessment workshops aimed at ICTs contribution to sustainable development



Benefits for the DUC's territory

▪ **Development of the territory's attractiveness**

- The development of innovative services aiming at the benefit of both residents and businesses
- Anchoring fluid control as a robust skill for the territory
- Promote activity creation within the territory

• **Act out it's commitment to sustainable development**

- Demonstrate it's exemplary status in terms of sustainable development through better management of land & public buildings

• **Commit to the future**

- Investing in the long-term increase of awareness and education of residents in regard to their environmental footprint



Benefits for the group

- Measuring the relevance of new services through "in the field" experimentation
 - Tangible feedback from user panels
- Designing tomorrow's services from the observation of the area's players behaviors'
 - Using the user's innovation potentials
- Provide visibility to Group "fluid control" services
 - A showcase for group's new services



What are the potential outcomes of the project for water efficiency?

- A comprehensive range of data:
 - The Per Capita Consumption and per building consumption per day
 - The consumption of municipal facilities (gym)
 - The follow up and improvements of a pilot part of distribution system on an industrial estate
- Returns from the field of :
 - Various methodologies of experimentations
 - Impacts of providing information to various Customers on their consumption
 - Links between water demand management and water resources management
 - Cost benefit analysis
 - And...



'Innovation and Water Efficiency'- a technical symposium

- ...Certainly much more, due to on the field commitment to innovation from our Teams!



- Thanks for your attention!

