



2nd IWA Leading-Edge Conference & Exhibition on
Strategic Asset Management

**Urban water networks, what is at stake?
(engineering challenges)**

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Context

- Asset Management and Engineering Developments
- Context
 - People
 - Processes
 - Systems
 - Avoid other Workshop topics
- Gaps
 - Institutional Building
 - Legal
 - Technical *
 - Relationship to Environmental Bodies *
 - Life Cycle Economics *



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Main gaps

- **** Life Cycle Costs of Maintenance and Repairs
 - Benefit – cost analysis
 - Alternative methods and procedures
 - Proactive – reactive
 - How much and when
 - CAPex or Opex?
 - When spent and how?
- Opportunities
 - Research
 - Collaboration
 - Clearinghouse of shared data



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Main gaps

- **** Blockages
 - Where
 - Why
 - Random?
 - AWWARF
 - Patterns
- Opportunities
 - Research
 - Collaboration
 - Clearinghouse of shared data



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Main gaps

- *** Water and Wastewater system Performance modelling
 - Performance
 - Monitoring
 - Condition
 - W – modelling easier
 - WW More difficult
 - W asset poorer data
 - WW assets richer
- Opportunities
 - Research



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Main gaps

- *** Water is Sexy
 - Lack of marketing
 - \$3000 a cubic meter
 - Pay for cell phone
- Opportunities
 - Marketing
 - Education
 - Promotion to youth
 - Promotion to citizens



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Main gaps

- *** Data Clearinghouse
 - No case studies
 - No good data
- Opportunities
 - Collaboration
 - LESAM SC



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Main gaps

- *** Deterioration modelling
 - W asset poorer data
 - WW assets richer
 - WW Not repeatable
- Opportunities
 - Research
 - Collaboration
 - Clearinghouse of shared data



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Main gaps

- *** Modelling for Small and Medium Utilities
 - Poor Useage of data
 - Lack of Data
- Opportunities
 - Research
 - Scaleable models
 - Guidelines
 - Leadership



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Main gaps

- ** Grease Traps
 - Not research
 - Not sexy
 - Many municipalities around world
- Opportunities
 - Research
 - Collaboration
 - Clearinghouse of shared data



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Main gaps

- *** State of Asset Management
 - No National reports or not consistent
 - Many municipalities around world
- Opportunities
 - Collaboration
 - Clearinghouse of shared data



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Main gaps

- ** Flushing
 - Benefit – cost analysis
 - Alternative methods and procedures
 - Proactive – reactive
 - How much and when
 - Study of Biofilms
- Opportunities
 - Collaboration
 - Clearinghouse of shared data



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Main gaps

- ** Biofilms
 - Good
 - Bad
 - Stable
 - Deposits Versus Biofilms (coliforms)
- Opportunities
 - Research



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Main gaps

- ** Robotic imaging
 - ***Water large trunk (boat?)
 - ** Wastewater large trunk (boat?)
 - * Wastewater domestic connections
- Opportunities
 - Research
 - Development
 - Innovation



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Main gaps

- ** Global collaboration
 - Islands of technology
- Opportunities
 - Collaboration
 - LESAM
 - Global Water network...



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Main gaps

- * Comparisons to Oil and Gas Industry
 - Technologies
 - Techniques
- Opportunities
 - Research
 - Collaboration
 - Techniques useable



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