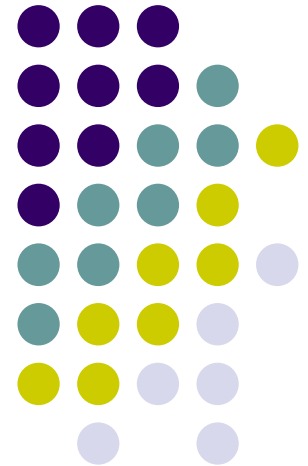
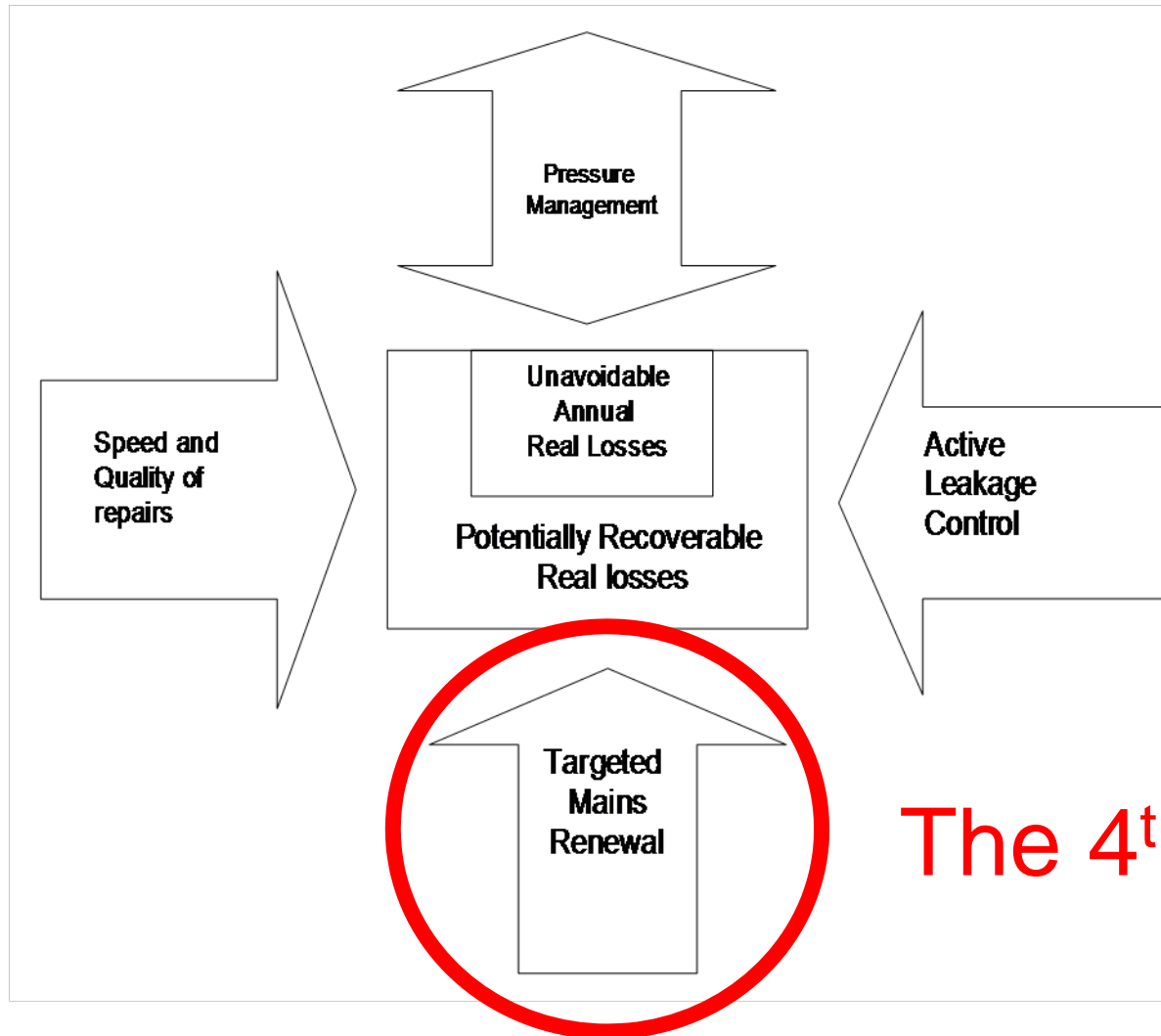
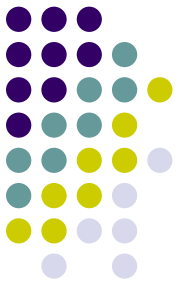


Repair or replace dilemma for services and mains

Jo Parker



Why include it?



The 4th side

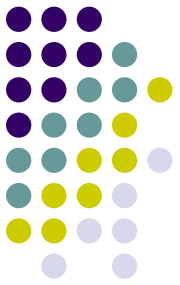
My experience



- Some water utilities still think that if their leakage is high the only answer is new mains
- Some water utilities don't actively keep records of failure
- Many of those that do don't use the records
- Many utilities replace on the basis of oldest first
- Many have no rationale for the level of replacement
- Many have not looked at what will happen in the future with the current level of replacement.

So the Repair or Replace initiative was born





The story so far

- Raised at the Halifax conference
 - Leakage and the link to asset management
- Further work in the UK and US
 - SBWWI conference in June 2007 Why build in leakage?
 - Utility Infrastructure Workshop in 2008
- Circulated a paper on the UK situation
- Small response
 - Cyprus
 - South Africa
 - UK
- Outline Best Practice guideline structure developed
- Sessions on pipeline rehabilitation and replacement
 - 2007 Budapest
 - 2009 South Africa
 - And.....

Today

Members of the group

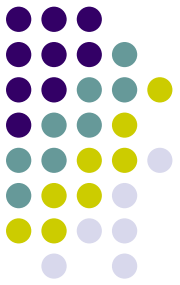


- Aristdes Adamou
- Rene Dupont
- Christodoulou
Christodoulos
- Symeon Christodoulos
- Herman Crommelink
- Guy Dedecker
- Nigel Ellul
- Daniela Fuchs-
Hanusch
- Gerald Gangl
- Dennis Grimshaw
- Michaela Hladel
- Vassilis Kanakoudis
- Jorg Koebl
- Jay Madigan
- Dragon Savic
- Zdenek Svitak
- Kobas Van Zyl

Countries Represented



- Austria
- Belgium
- Cyprus
- Czech Republic
- Greece
- Norway
- South Africa
- UK
- USA



Best Practice Guidelines

- Managing the distribution system
- Pipe information
- Performance information
- Analysing performance
- Predicting future performance
- Cost benefit studies
- Replacement options
- Managing replacement projects
- Further research

Further Research needed - identified in 2007



- What is the profile of failures over time?
- Are new systems leak free? Can they be?
- Are different pipeline materials/installation methods better than others for reducing leakage?
- What is the rate or rise of new systems
- Are there any design factors which reduce leakage?
Service pipes?
- Are there any frameworks for work which ensure better quality installation than others

Further Research needed - identified in 2007



- What is the profile of failures over time
- Are new systems leak free?
- Are different pipeline materials better than others
- What are the best practices for installation?
- Are there any materials or methods which reduce leakage?
- Service life of different materials
- Are there any frameworks for work which ensure better quality installation than others
- What impact does mains renovation have on leakage

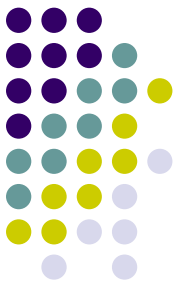
**UKWIR
Research Projects**







Original objectives 2007 - 2009



- Increase the size of the team
 - Water company members
 - Contractor members?
- Complete draft best practice guide
- Continue to raise profile of this issue
 - Water 21
 - International papers
- Research?

Original objectives 2007 - 2009



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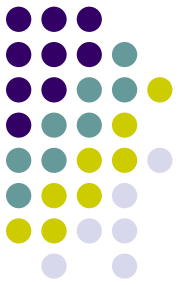


Where to next?

- Complete the manual
 - Should we have 2?
 - developing countries,
 - developed countries
- Keep pushing for research
 - Is there any going on?
 - Is anyone prepared to collect data?
- Keep raising the issue

Volunteers?

All welcome to the next meeting



Tomorrow, Wednesday 9th June 10.30

Room 3, Next floor up

Debate the questions I've raised and agree final outputs

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