During conditioning, accumulated discolouration material is removed by mobilising it into the flow at very low, safely managed levels. PODDS uses hydraulics to safely manage pipe performance.

**ADVANTAGES:**
- Material is safely removed, conditioning the pipe
- Increased resilience to unexpected events or planned network activity
- Low cost
- Non-invasive, more sustainable than pipe replacement or disruptive cleaning
- Optimises total expenditure rather than capital solutions

**AN INNOVATIVE APPROACH**
The Prediction and management Of Discolouration in Distribution Systems - PODDS

**1. FLOW CONDITIONING**

**2. AUTOMATION AND INSTRUMENTATION**
Alongside flow conditioning PODDS has encouraged monitoring and instrumentation. Northumbrian Water have automated flow control across their network, managing discolouration without manual intervention or risk.

AN INNOVATIVE APPROACH
The Prediction and management Of Discolouration in Distribution Systems - PODDS

**#1 CUSTOMER COMPLAINT FOR WATER QUALITY: DISCOLOURED WATER**
Companies often tackle this with expensive, time-consuming and disruptive pipe replacement or invasive cleaning, but this is only a short-term solution as material rapidly re-accumulates.

**ADVANTAGES:**
- Material is safely removed, conditioning the pipe
- Increased resilience to unexpected events or planned network activity
- Low cost
- Non-invasive, more sustainable than pipe replacement or disruptive cleaning
- Optimises total expenditure rather than capital solutions

**“Applying PODDS understanding and using flow conditioning helps companies deliver a better service.”**
Professor Joby Boxall
“Companies don’t have to replace pipes - they can manage the risk instead.”
Dr Stewart Husband

The understanding behind PODDS comes from measuring turbidity. The latest generation of monitors now enables continuous real time readings to water companies. This allows more proactive management and assessment of the state of their networks at all times.

“Instead of spending 10s of millions replacing or cleaning trunk mains we’ve applied the PODDS principles to the way we manage our water infrastructure and train staff around this. It’s been a game changer for us.”
Michael Baker, Tactical Planning Manager, Northumbrian Water

“The work at Sheffield has helped us understand the different physical, chemical and biological factors that contribute to water discolouration. This allows us to implement our control measures more effectively.
On the subject of water quality discolouration, the work by the Sheffield team is among the best I’ve seen.”
David Main, Technical Team Leader, Scottish Water

66% reduction in discolouration-related customer contacts since applying the PODDS principle.

Scottish Water have used PODDS understanding to communicate with stakeholders.

1. PODDS is focused on developing decision support tools and models by improving understanding of material accumulation processes. This will help companies optimise maintenance planning and investment to prevent discolouration.

2. To achieve this we need continuous research collaborations with water companies that support data collection from different networks and water types and develop improved water quality monitoring and data storage/analysis.

Arrange a conversation with our team of experts
Collaborate with us on research and development opportunities
Contribute to our data collection efforts

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