



2023 10th Southern African Water Loss Summit
Supported by:
The International Water Association
Water Loss Specialist Group

IWA WORLDWIDE WATER ASSOCIATION
saice SOUTH AFRICAN INSTITUTE OF CIVIL ENGINEERS

15 & 16 August 2023
DBSA, Midrand

AI OR COMMON SENSE TO REDUCE WATER LOSS

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Participating and supporting organisations:






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Common Sense

OR



2



Definitions

Artificial intelligence (AI)
ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings.
(<https://www.britannica.com/>)

Common sense
ability to use good judgment in making decisions
(<https://dictionary.cambridge.org/>)

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Introduction Video



Source www.synthesia

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Walt Disney

"Walt Disney has created a task force to study artificial intelligence and how it can be applied across the entertainment conglomerate"
8 Aug 2023 - Reuters



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Which of these faces are real?



Source www.whichfaceisreal.com/

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Which of these faces are real?



Source www.whichfacesreal.com/

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Chat GPT on Real Water Loss

Question: What is the single most effective initiative to reduce Real Water Loss in South African Municipalities

ChatGPT Answer: "There are several solutions that can be implemented to reduce real water loss in South Africa. One of the most effective solutions is to invest in the maintenance and upgrading of existing infrastructure such as pipelines and reservoirs to prevent leaks and water losses. Additionally, the adoption of efficient water management practices in homes and businesses can also contribute to reducing real water loss. These practices can include the installation of low-flow fixtures, the use of water-efficient appliances, and the implementation of water reuse and recycling systems."

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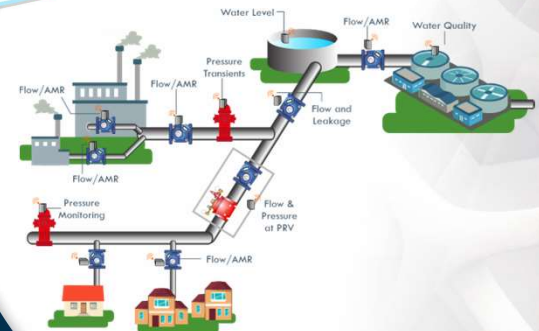
Chat GPT on Apparent Water Loss

Question: What is the single most effective initiative to reduce Apparent Water Loss in South African Municipalities

ChatGPT Answer: "One of the most effective ways to reduce apparent water loss in South Africa is by implementing a comprehensive metering system that can accurately measure and monitor water usage across all sectors. This can help to identify and address areas of high apparent water loss, such as leakages, illegal connections, and inaccurate billing. Another solution is to educate consumers on the importance of responsible water use and to encourage them to report any instances of wastage or misuse. Additionally, the adoption of new technologies such as smart meters and advanced leak detection systems can also help to reduce apparent water loss in South Africa."

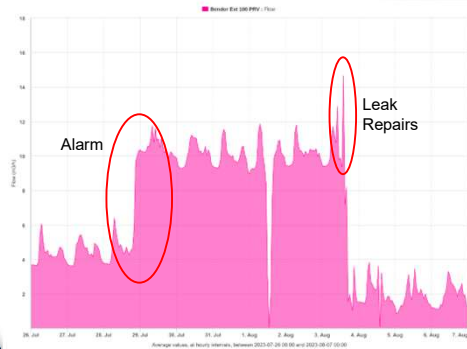
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Water Network Monitoring



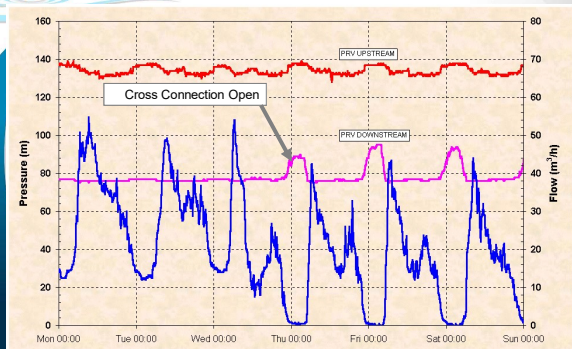
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Flow Monitoring – Leak Detection



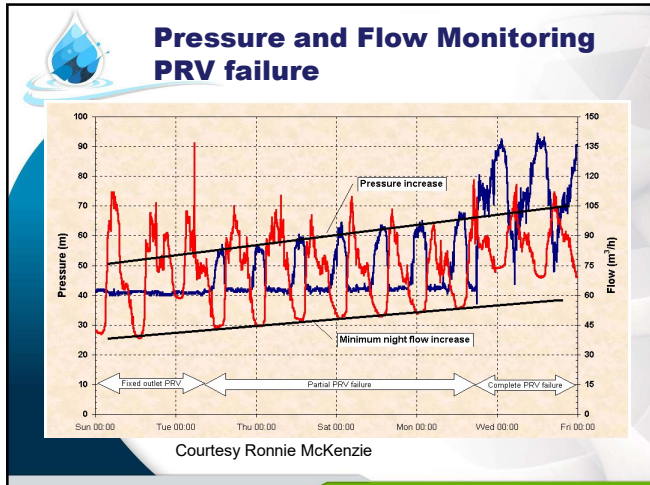
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Pressure and Flow Monitoring Cross connection Open



Courtesy Ronnie McKenzie

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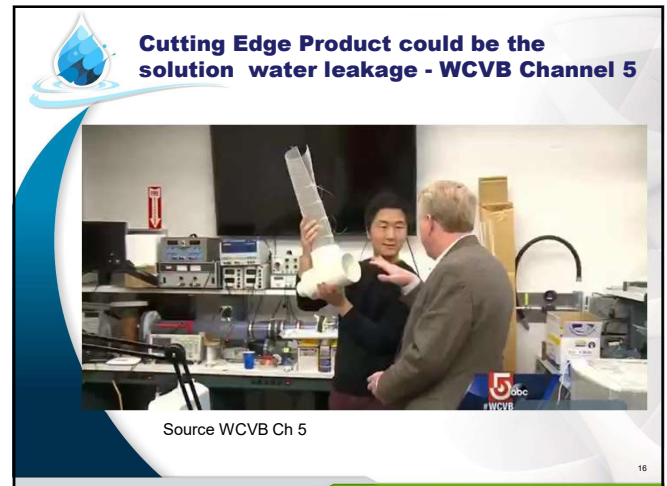
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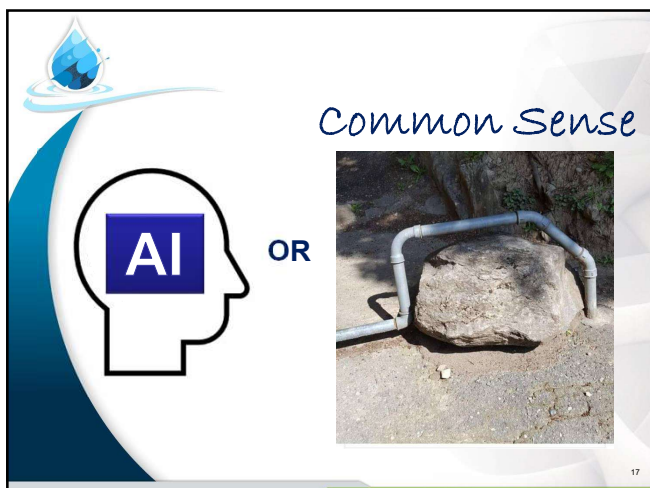
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Leak Repair Job Planning

Source www.npr.org / Seth Perlman/AP

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Effective Leak Repairs

Pipe Repair Clamps

Courtesy Ronnie McKenzie

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PRV Refurbishment

Before

After

PRV

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Bulk Pipe Repair

Roodeplaat WTP

Leak next to Railway Line

Montana Reservoir

Pipe 4m deep Next to Railway Line

Pipe Repair by City of Tshwane

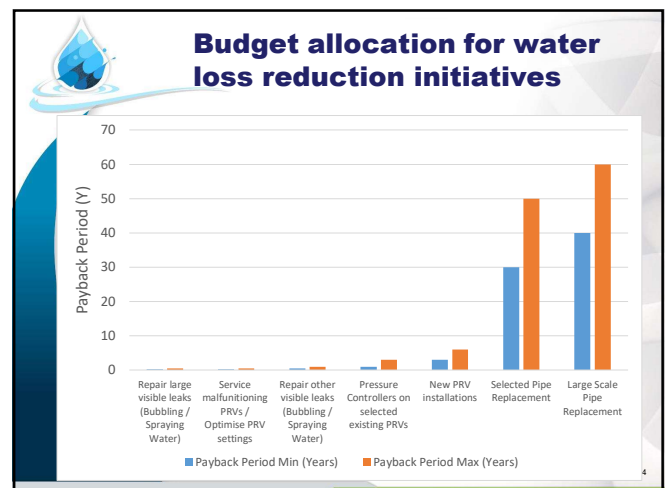
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Anti Vandalism Measures

Anti Vandalism Measures

Courtesy Nsika Zondo

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Summary

- “AI is a tool. The choice about how it gets deployed is ours.” (Oren Etzioni)
- Common Sense will however always remain important in the planning, budgeting and implementation of water loss reduction.
- Municipalities should aim to allocate the available budget to achieve maximum results on water loss reduction.

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THANK YOU

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