



# Internet of Things Driving Innovation in Smart Water Practise

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i2O is a proven world leader in providing smart network solutions to water utilities



# i2O in Malaysia



## Water

## Water companies losing vast amounts through leakage, as drought fears rise

Advertisement

Customers are being asked to save water, but more than 20% of water is lost before it reaches homes and leakage levels are not declining, Guardian analysis shows

**Damian Carrington**  
Environment editor

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This article is over 1 year old



▲ Flooding from a burst water main in Bristol. Photograph: Chapman/LNP/REX/Shutterstock

Fears of a drought are rising after an exceptionally dry spell and water companies are asking customers to save water, but the vast amount of water that leaks from company pipes every day has not fallen for at least four years, according to a Guardian analysis.

Furthermore, many companies in the parched south and east of England

# Water companies face mounting problems but have no more money to deal with them, compounded by regulatory and political targets



# Historically, water networks have been designed, built, operated and maintained manually

- Analogue sensors were used to measure. These include listening sticks, pressure gauges, litmus paper, etc.
- Data was recorded by hand and physically brought back to a central point
- Calculations, to design a network or diagnose an issue, were performed on paper on an occasional basis
- Installation and operation was performed manually
- Maintenance was performed on the basis of time and/or on failure



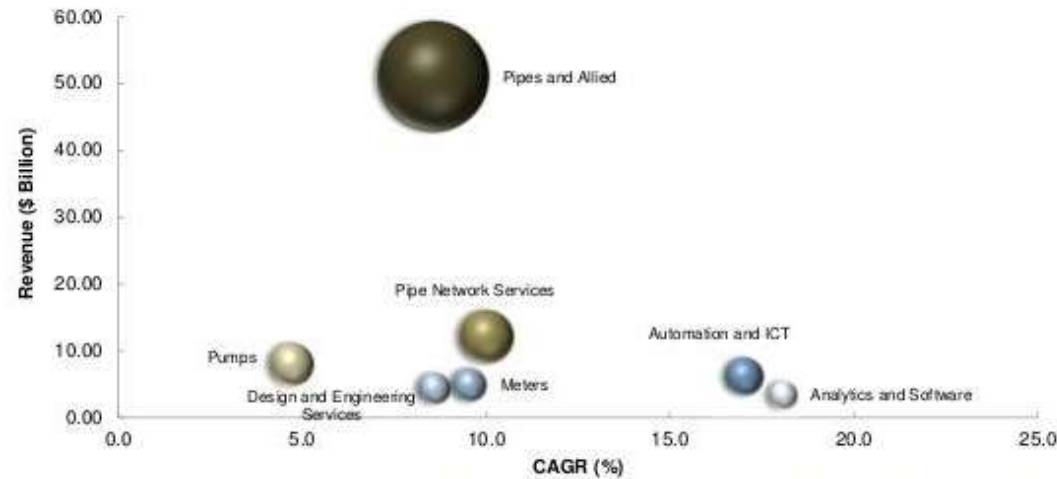
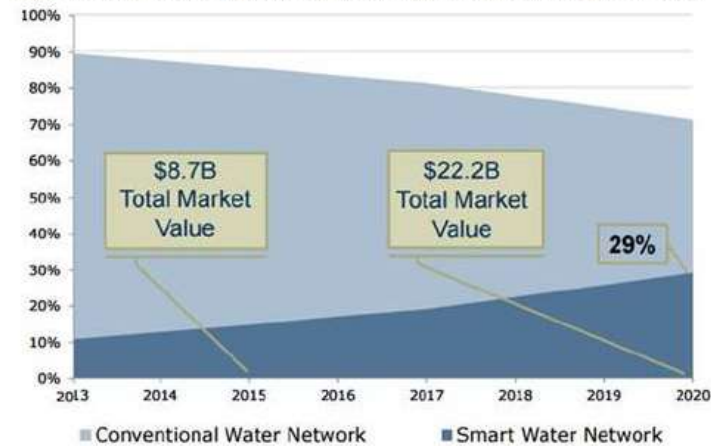


# Current solutions to these issues are either costly or have limited impact

		Cost	Time to benefit	Impact
Build new supply infrastructure		High	High	Medium
Reduce demand		Low	Medium	Low
Replace / rehab. water mains		Medium	Low	Low
Find and fix leaks		Medium	Low	Low
Make networks smart		Low	Low	High

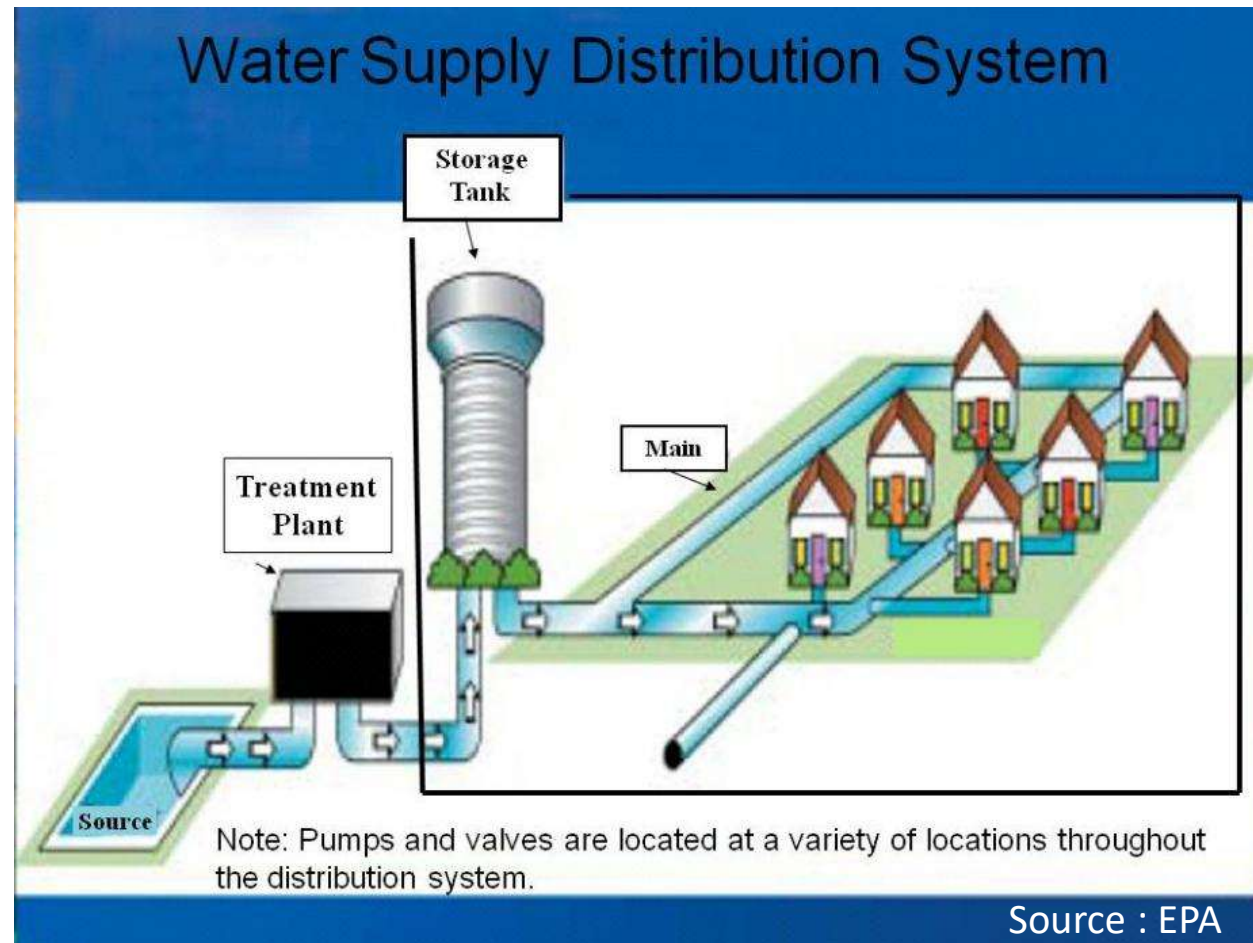
# The deployment of smart network solutions is gathering pace

Smart and Conventional Water Grid Penetration, Global



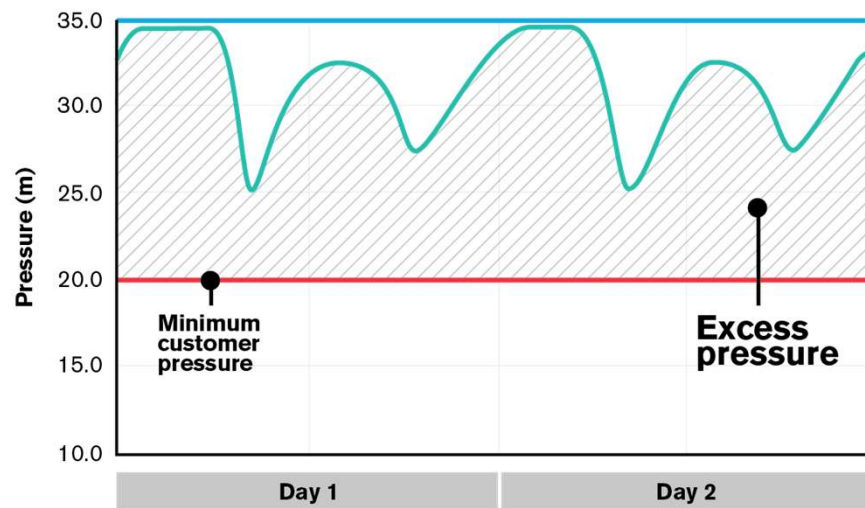


# Use Case :Using Analytics to Optimize Pressure Management

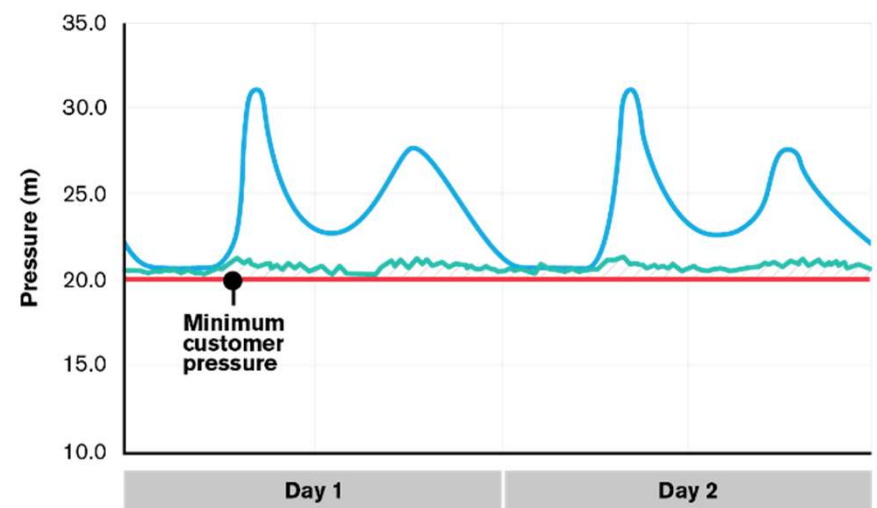


# Automatic optimisation delivers minimum customer pressure continuously

BEFORE

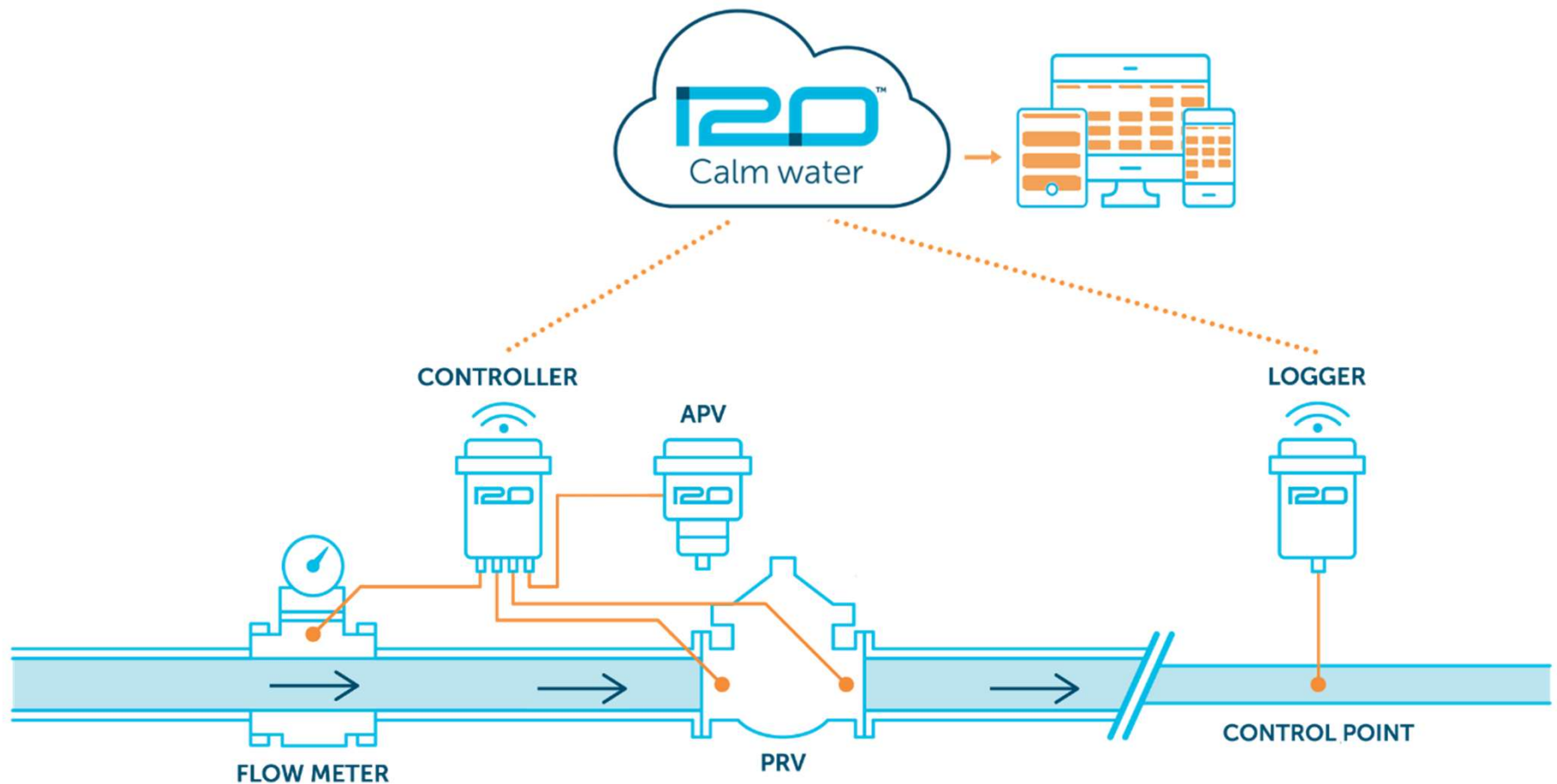


AFTER



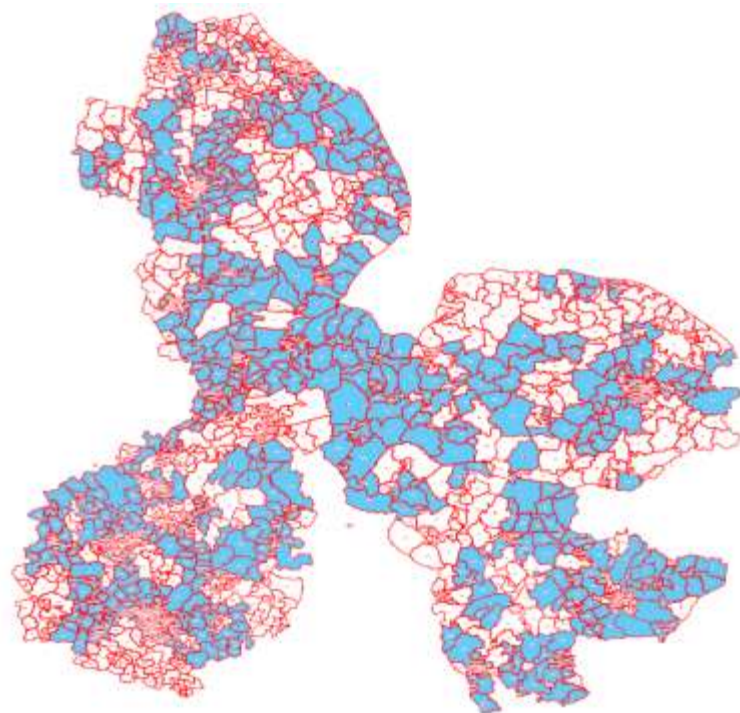
- Water pressure entering network zone
- Lowest pressure in the network zone

# How advanced pressure management works



## Advanced Pressure Management is delivering leakage reductions for Anglian Water ahead of their targets

- 30% reduction in bursts
- 13 MLD reduction in leakage
- 40 MLD reduction in distribution input
- Improvements in interruptions to supply, operational efficiency, water quality, customer satisfaction



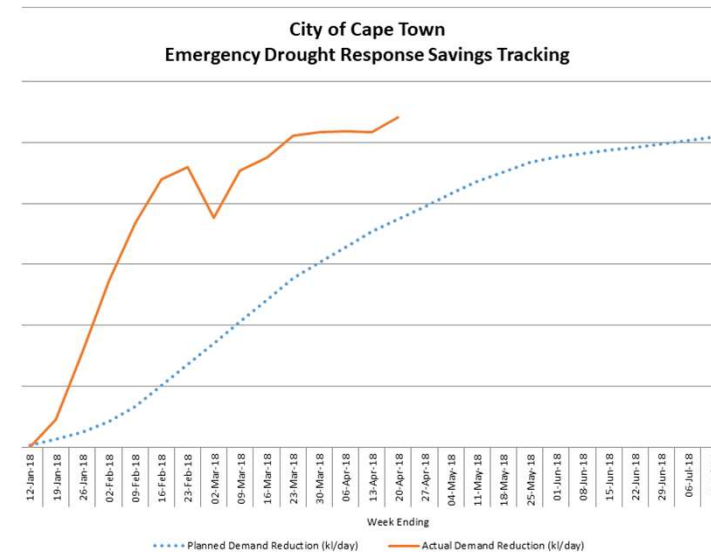
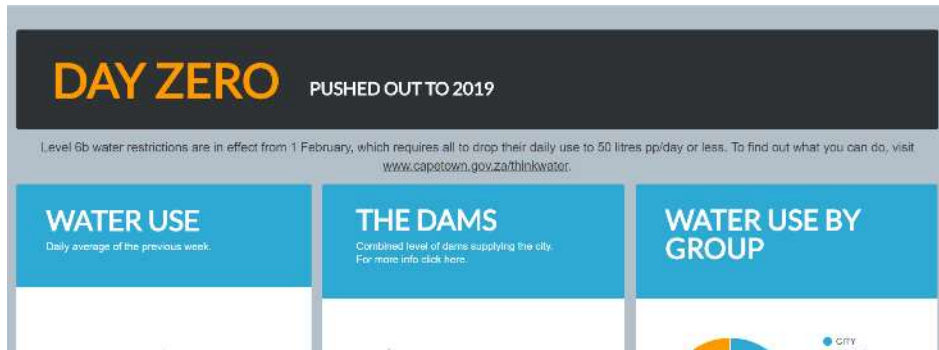
love every drop  
anglianwater

# Smart Water averted the crisis in Cape Town, delivering $\frac{3}{4}$ of the targeted reductions within weeks rather than months

## Before



## After



**CITY OF CAPE TOWN**  
**ISIXEKO SASEKAPA**  
**STAD KAAPSTAD**

destined for your water supply system to the City of Cape Town. To date we have deployed a total of 93 i2O controllers across the network – these have managed to achieve a demand reduction of 45 256 k/day out of the City's total demand reduction of 60 376 k/day. This intervention has effectively solely been responsible for ensuring that Cape Town avoided Day Zero this year, and should do so in years to come.



# Significant business benefits can be achieved quickly and cost effectively by making networks smart



## Leakage reduction

By removing excess pressure, leakage levels fall by an average of 20%

# 20%

Average leakage reduction



## Energy savings

Less water being pumped at a lower average pressure leads to a significant reduction in energy consumption

# 20%

Typical energy savings with i2O's pump solutions



## Burst frequency reduction

Through lowering maximum pressures and smoothly controlling pressure transitions, burst frequency is reduced

# 40%

Average reduction pipe bursts



## Improved customer service

Target pressures can be delivered with a high degree of confidence; there are fewer network related complaints

# FEWER

Network related complaints



## Asset lifetime Extension

Owing to the reduction in burst frequency, the lifespan of infrastructure approaching replacement can be extended

# 5+

Year asset lifespan extension



## Operational costs savings

i2O customers save money from less 'find and fix' activity and fewer scheduled site visits

# 40%

Typical operational cost savings

**Investment payback time can be as short as six months**



# THANK YOU

*<https://en.i2owater.com/>*