



An Roinn Tithíochta,
Pleanála agus Rialtais Áitiúil
Department of Housing,
Planning and Local Government



Irish Waters national approach to reducing leakage

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Leakage is a challenge for every utility



Leakage is a significant problem
We have a national plan
It will take time and money, and we are making progress



43% of drinking water is **lost** before it reaches homes and businesses



Leakage Reduction Programme & Local Authority Partners have dedicated teams fixing **1,500 leaks** every month



This work will save **166 million** litres of drinking water daily by 2021



Our water network is large and complex



63,000km water main in GIS	12.5 million joints	1 million water meters in homes and businesses	4,400 district meters
788 Water Treatment plants	1,426 reservoirs	1,700 ML/day water treated	3.8m population served

Good work by local authorities



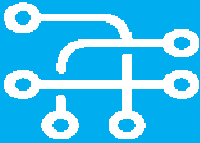

Driven by local resources and priorities

- Water conservation campaigns
- New telemetry
- Network management and planned leakage reduction
- DMAs established
- Find and Fix & Mains Replacement
- Non-domestic metering

Obstacles to progress

- No domestic meters
- Variations in availability of treated water
- Network varied
- Leakage levels varied
- Urgency of repairing leaks v disruption and cost of repairs

Challenges remained in 2014

 <p>*49% Leakage nationally (*estimate)</p>	 <p>Inconsistent investment. No dedicated national budget</p>	 <p>No domestic meters – no accurate consumption data</p>
 <p>Broken bulk meters & missing signals. DMAs not working</p>	 <p>No national approach to leakage</p>	 <p>No single view of leakage. No Leakage Management System</p>

Rebuilding the foundations

Build Leakage Management System

- Standard methodology
- Recalculate leakage using meter data
- Install National LMS

Dedicated investment plan

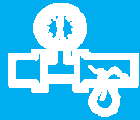
- Leakage reduction targets
- Dedicated Leakage Management team
- Dedicated Capital Budget

Fix the assets

- Map below ground network
- Replace broken assets
- Pressure logging

This enabled a systematic approach

1



Effective Leakage Management

- Strategy
- Plan
- Continuous improvement

2



Leakage Reduction Programme

- Set methods
- Set objectives
- Set targets

3



The Sustainable Economic Level of Leakage (SELL)

Leakage reduction as key pillar of NWRP

A single approach delivers key benefits



Single co-ordinated national approach



Dedicated
teams

Dedicated
investment

Dedicated
systems

Dedicated
programme

Irish Water
working with
Local
authority
teams with
extensive
local
knowledge

Delivering key benefits

- Better service, fewer outages, better water quality
- Better resilience
- More water for increased demand and economic growth
- Reduced need for new infrastructure in some areas
- Reduced impact on the environment

National Leakage Reduction Programme

2017 – 2021



Leakage reduced from **47%** in 2017 to **38%** by 2021



Find and repair leaks on public network



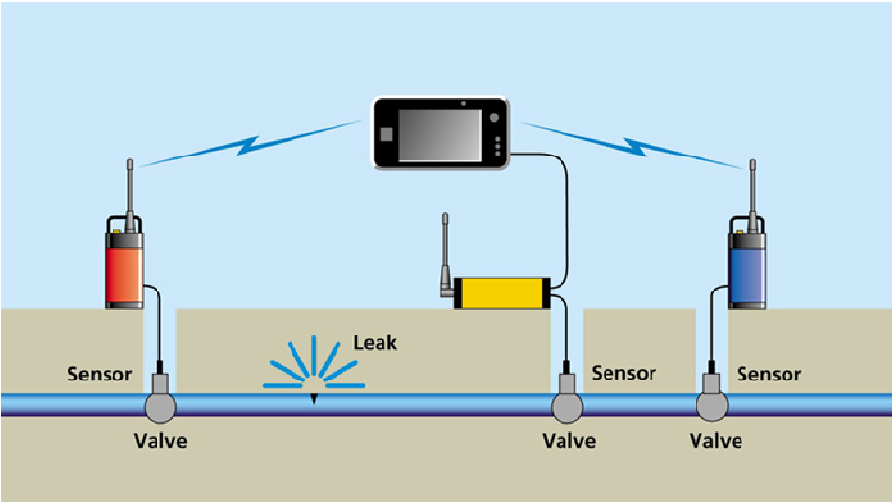
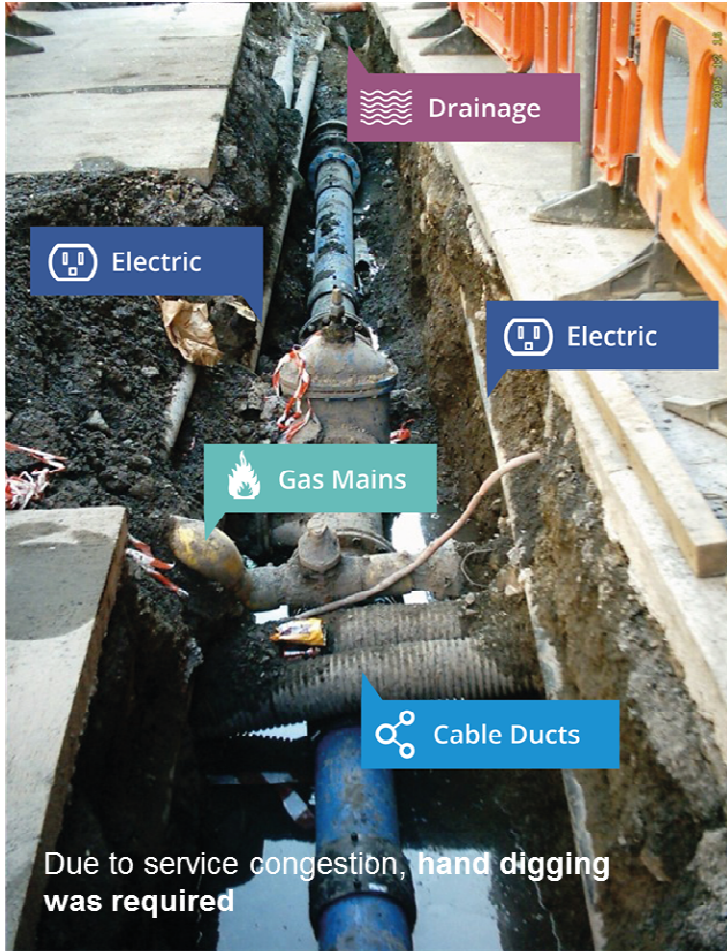
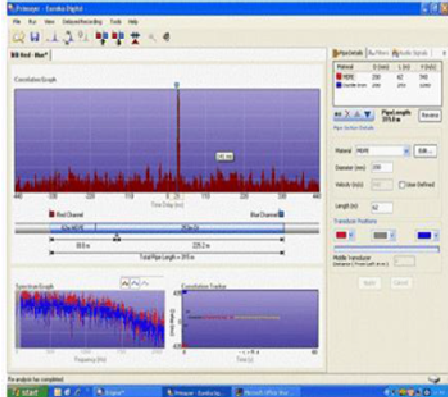
€500m to replace and repair leaking pipes



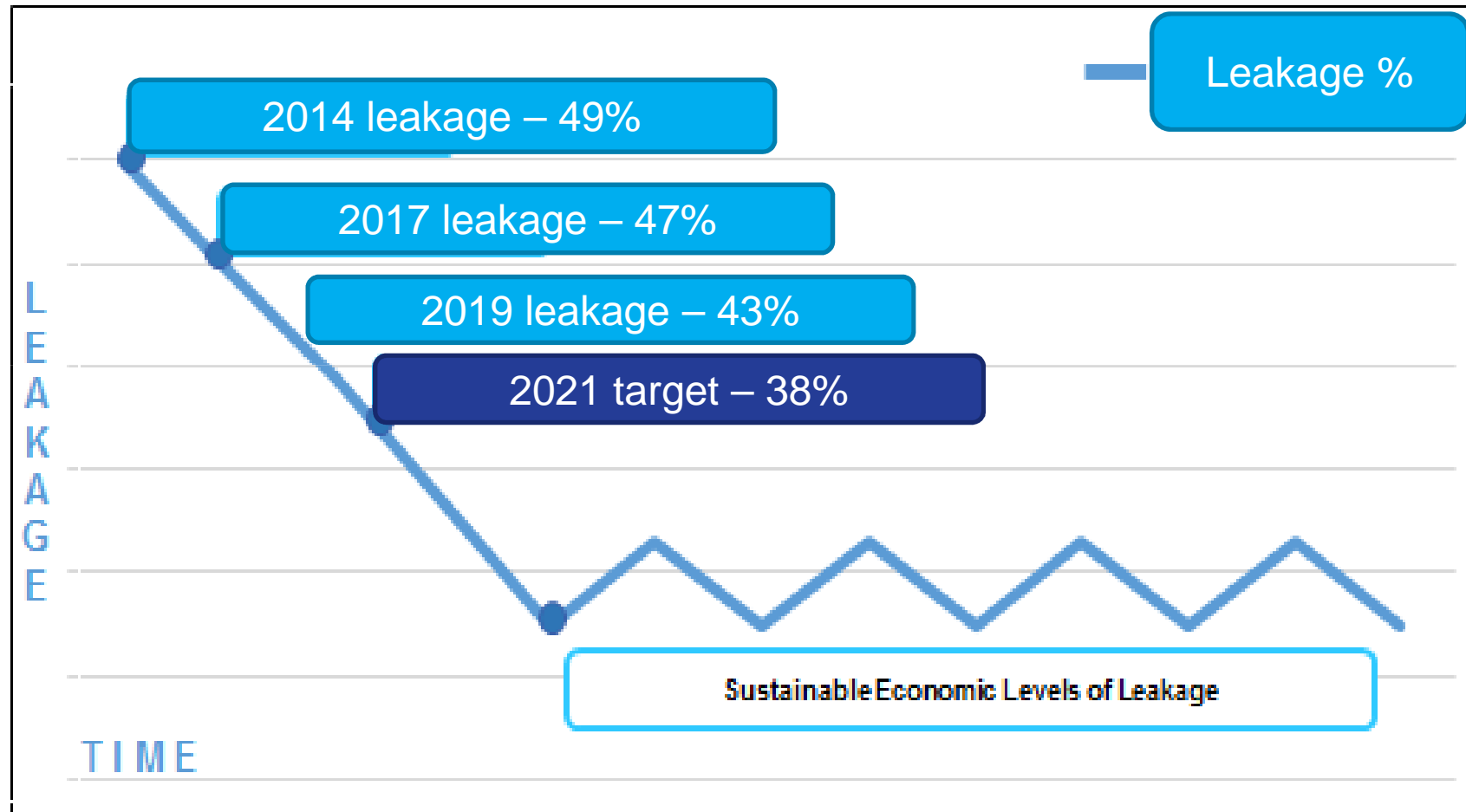
To save **166 million litres** of water per day



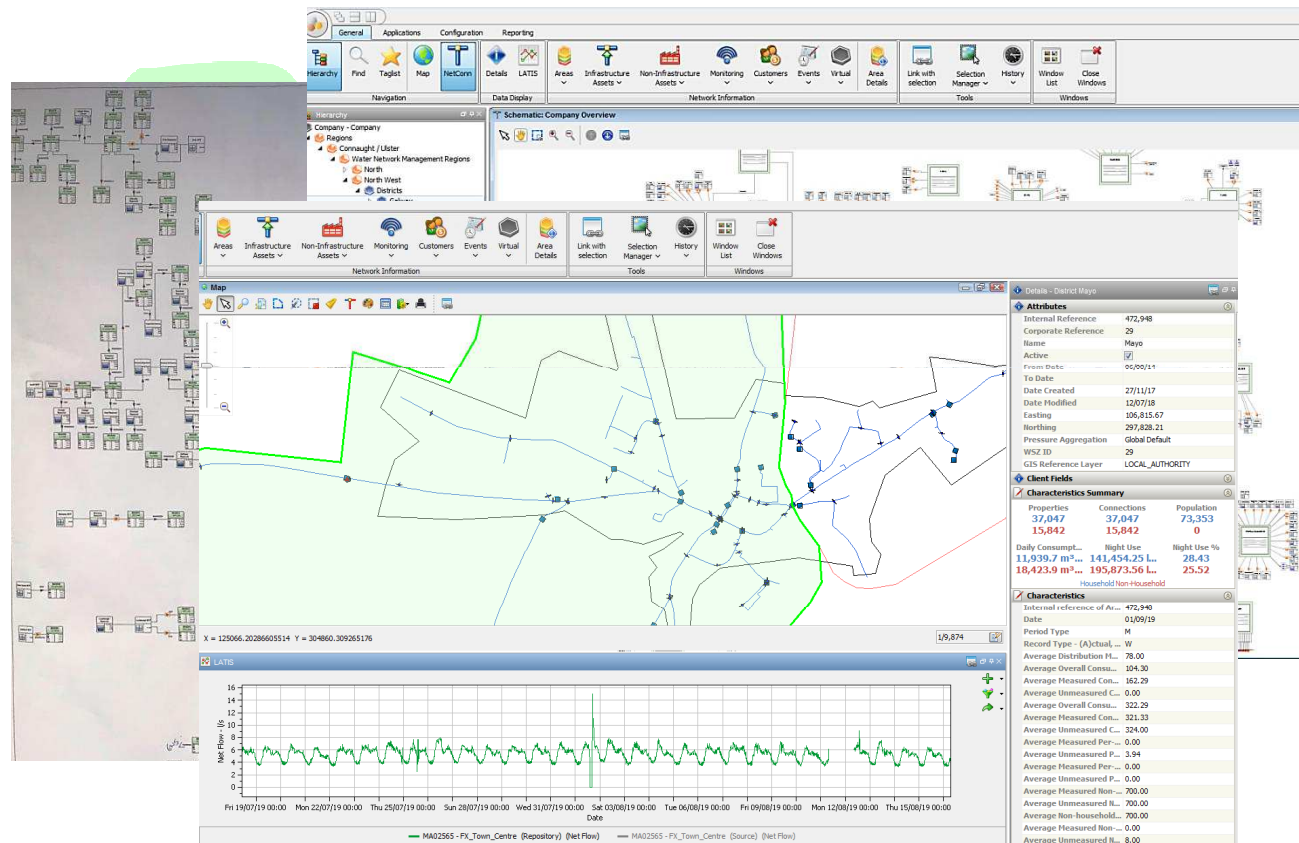
Reducing leakage will take time and effort



Steady improvements over time



Data is Key - Leakage Management System

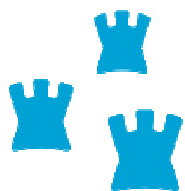


A Local Authority Perspective

Ronan O'Rourke

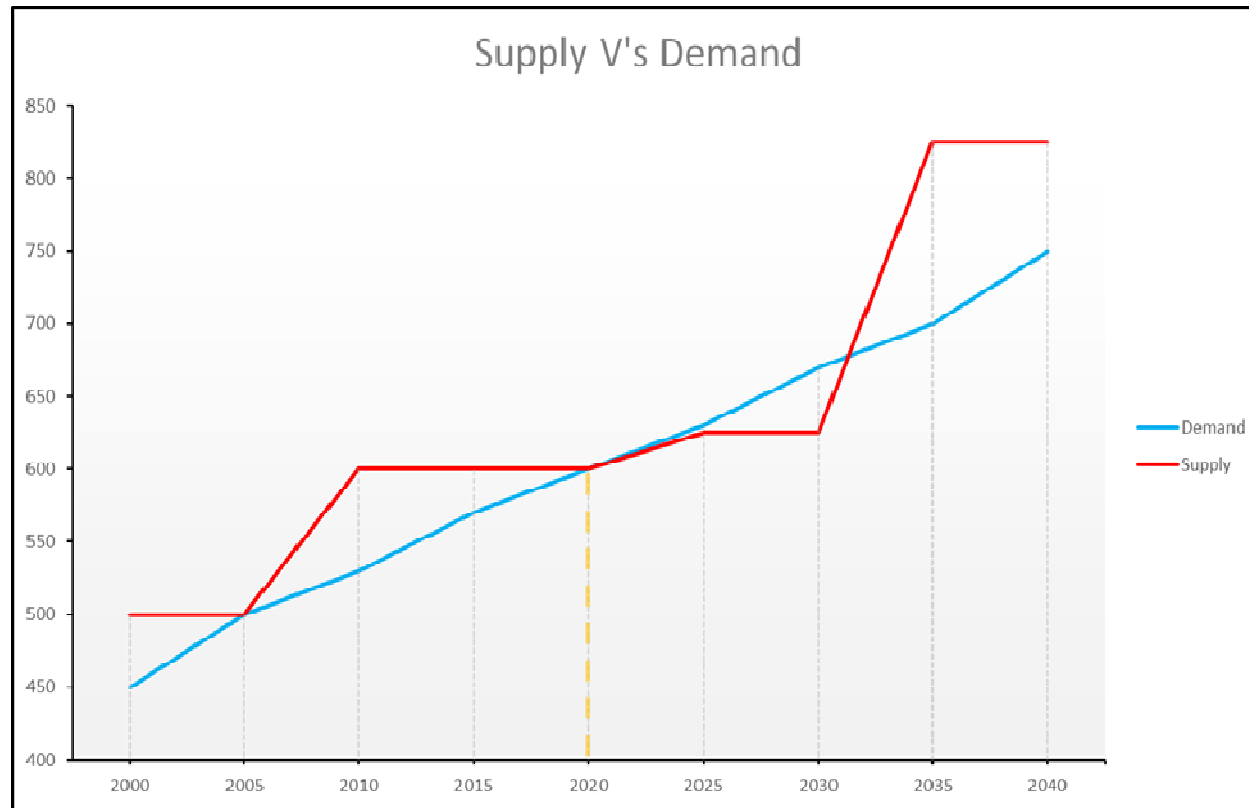
Executive Manager Engineering

Dublin City Council



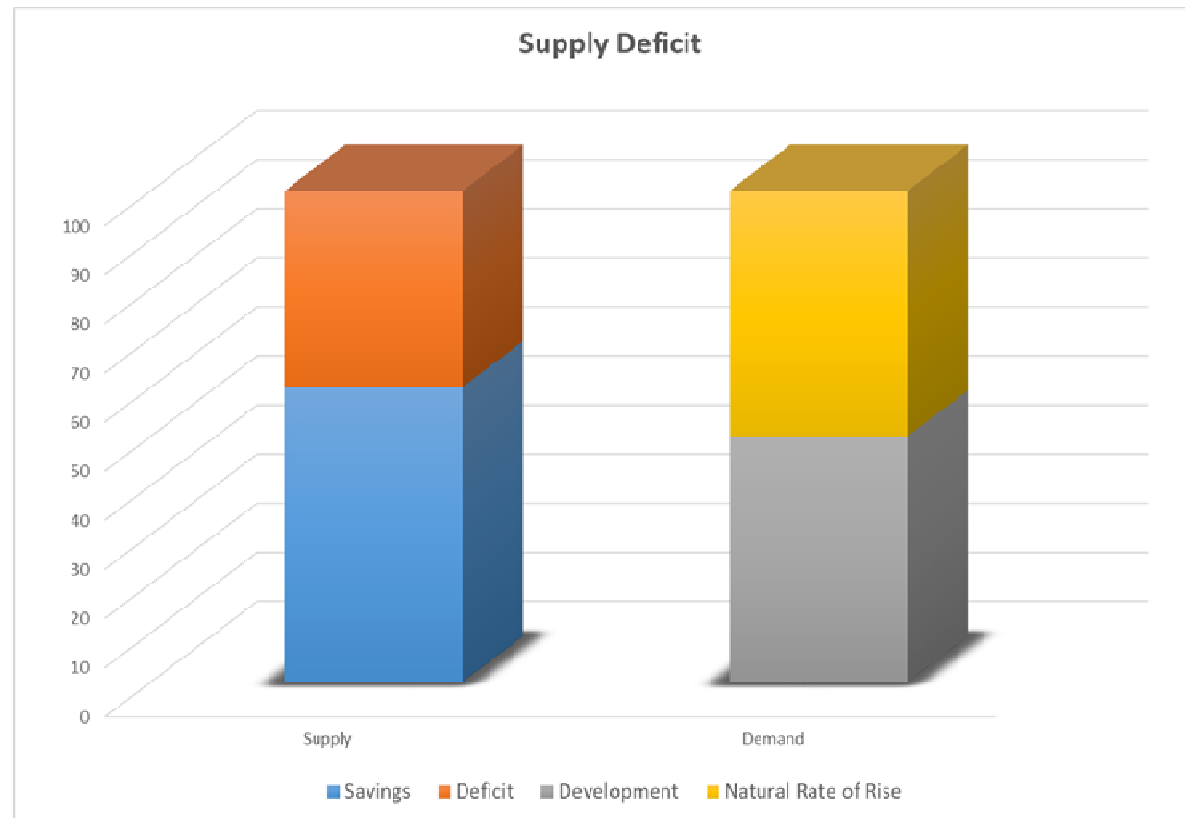
Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council

Headroom challenge in GDA



- 85% GDA water supply is from the Liffey
- 40% of available flow
- GDA headroom is very limited
- Leakage Reduction **must save more water** for supply

Balance supply pressure with increased demand



- On the supply side - possible to **save water currently leaking**
- It is also possible to **moderate demand**
- Continued **pressure** from **increased demand** and **natural rate of rise**

Local teams with local knowledge

- LAs had leakage teams finding and fixing leaks
- Storm Emma – significant increase in bursts
- Additional resources offered to increase leakage reduction
- In the Dublin Region Contractors and additional LA resources since Sept 2018



Strategic Overview - DRLRP



- GDA Directors of Services meet bimonthly with Irish Water to set strategy and review progress
- Dublin City Council host the Local Authority Programme Team in the Dublin Region
- Additional Resources deployed both via Contractor Crews and Local Authorities
- **Data driven** approach to Leakage Reduction

Strands in DRLRP

- Find & Fix
- Watermain Replacement
- Pressure Management
- Combination



A data based approach DRLRP - 1

- DMA meter readings used to rank areas and verify leakage savings
- GIS used to review campaign in DMA, valve locations, step tests
- Existing Telemetry & SCADA used extensively
- Importance of Leakage Management System



A data based approach DRLRP - 2

- DMAs ranked for Contractor and LA Find and Fix crews to work in
- Move from top ranked DMAs to DMAs with high leakage likely to return sustainable leakage savings following Find & Fix campaign



A data based approach DRLRP - 3

- DMA meter data required
- Non Domestic Meter Data required - allocated to each DMA
- Available Domestic Meter Data required - allocated to each DMA
- Accurate Meter Data directs the Find & Fix



Conclusion

- Current Leakage Reduction Programme has brought a major additional focus
- Additional Resources have been deployed by Local Authorities and Contractors
- These efforts must be sustained
- Excellent Data produced by LMS directs programme for optimal reduction in Leakage

**Thank you
for your time**