



dft

| fluid | ultraviolet | hazardous area |



Primayer

technology for network management and leakage control

Presented by

**David Green – Export Sales Manager
Primayer**

The challenge

- Climate change
- Urbanisation = *increased water demand*
- Limited water supplies
- Unacceptable levels of leakage
- Loss of revenue — cost of production



Meeting the challenge

- Our applications of modern technology for optimising networks
- **Primayer innovations in:**
 - network management
 - data delivery
 - leakage detection
 - leak location
 - leak confirmation

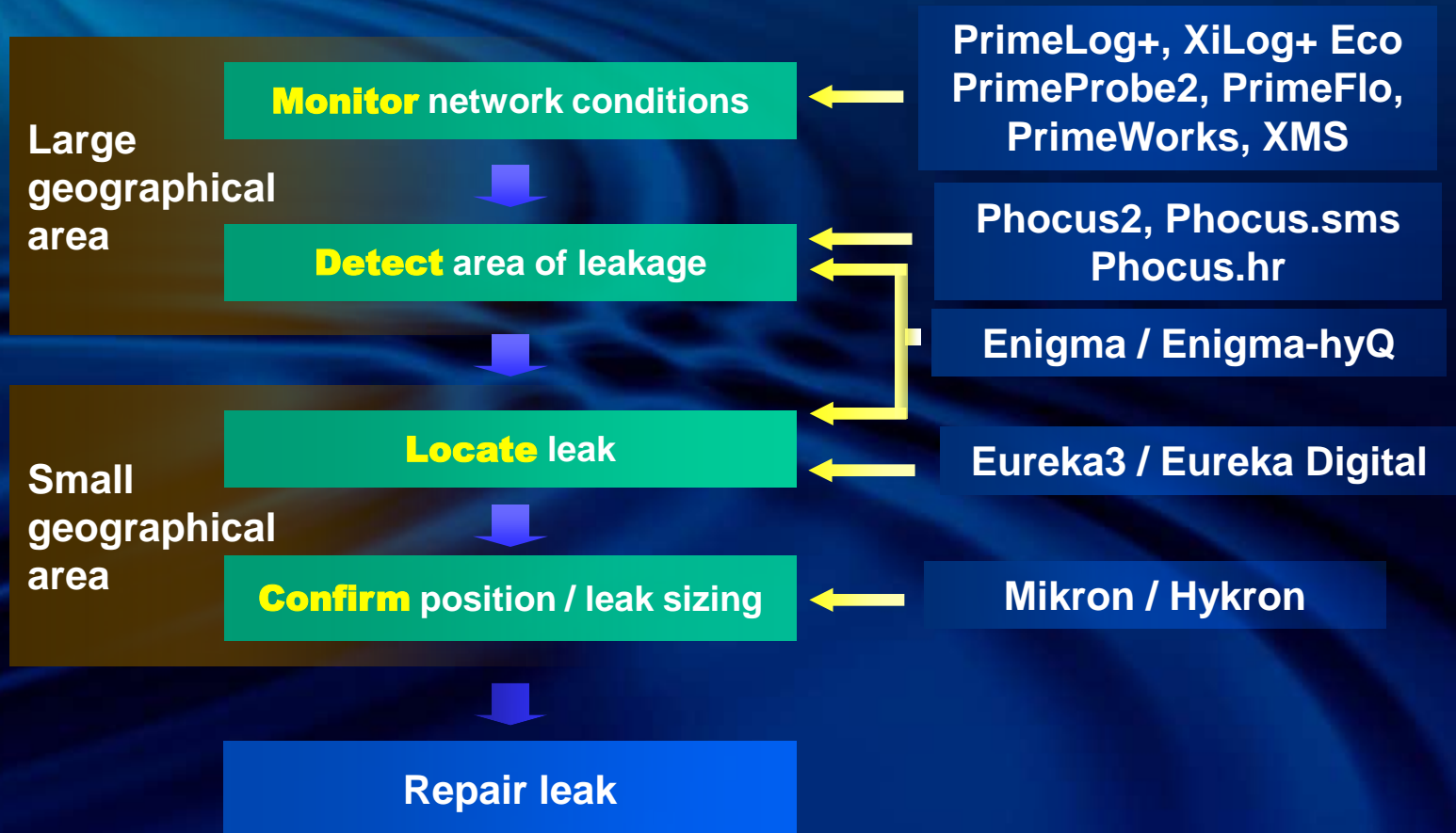


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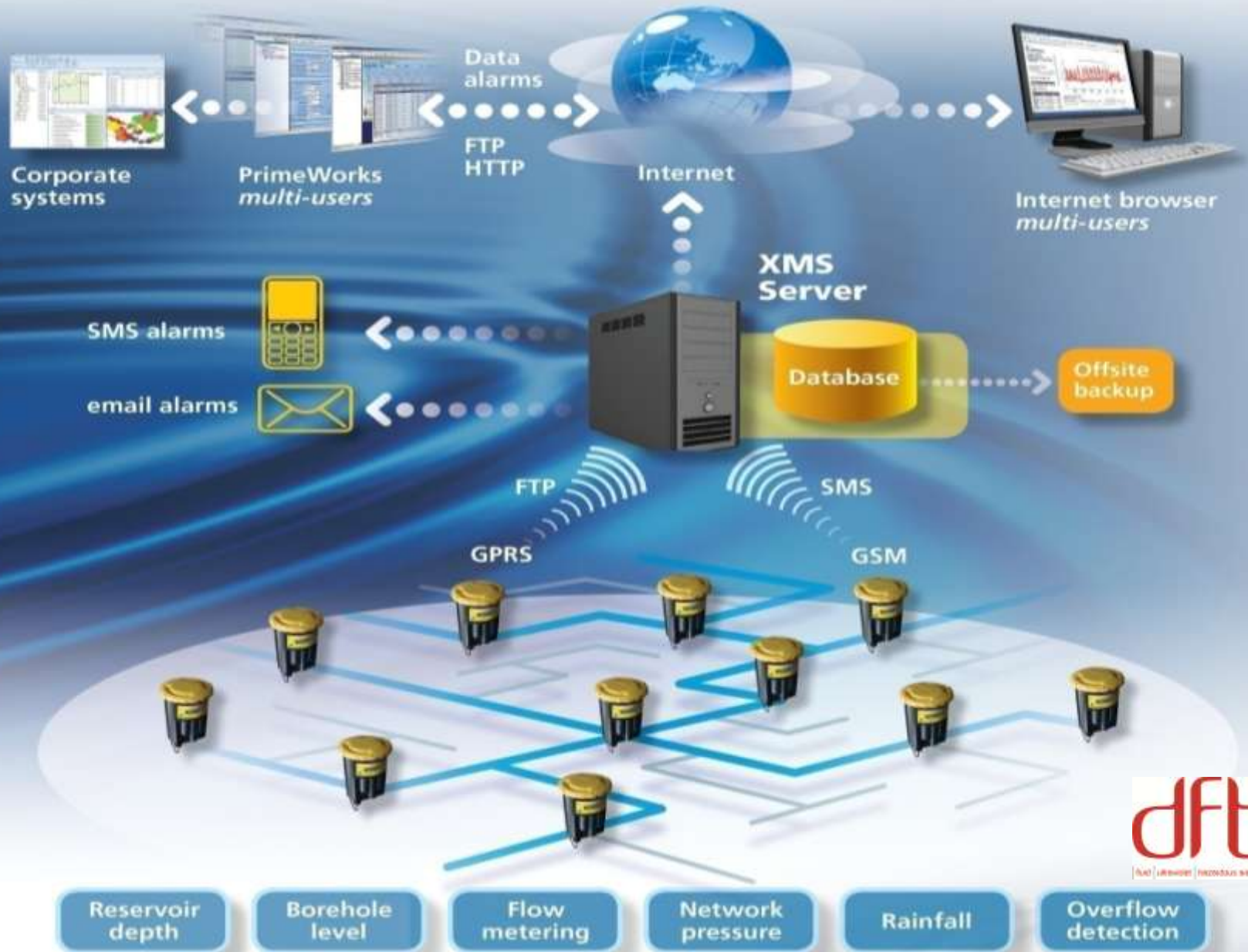
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A product for any Leakage Strategy



XMS - managed data delivery



Leak location technology evolution...

- Three new product variants to improve the efficiency of leak location and leak reduction in



- 1:- PRV Monitoring
- 2:- Step Testing
- 3:- Leak Noise Correlation

No 1:- PRV Monitoring

XiLog^{eco}



GPRS data logger driven by water pressure

...powered by



supplying data every 15 minutes



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The challenge

- Estimated 25,000 PRVs (in UK alone) at remote sites with no power that need monitoring
- Purpose - remove excess pressure to control leakage
- How can we monitor at high resolution data rates the functioning of these sites to assist in maintaining the integrity and sustainability of pressure managed networks , without the expensive installation of mains power or having to constantly change batteries.



Features

Pressure accuracy
to +/-0.1%

Logs two pressures
& bi-directional flow

Full system
waterproof to IP68

Large 2Gb memory
500 Million readings

Sophisticated alarms

Compatible with a wide
range of flow sensors

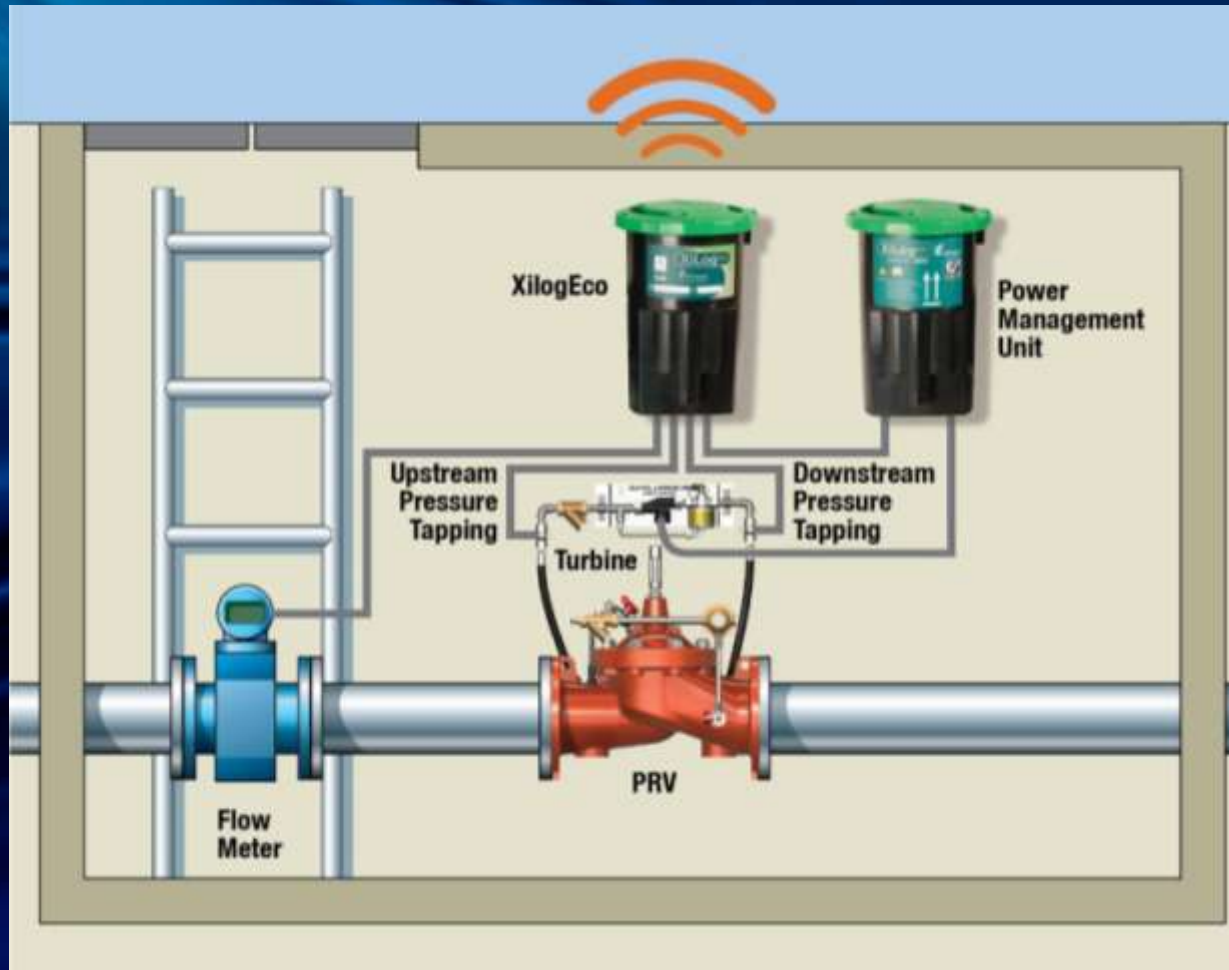


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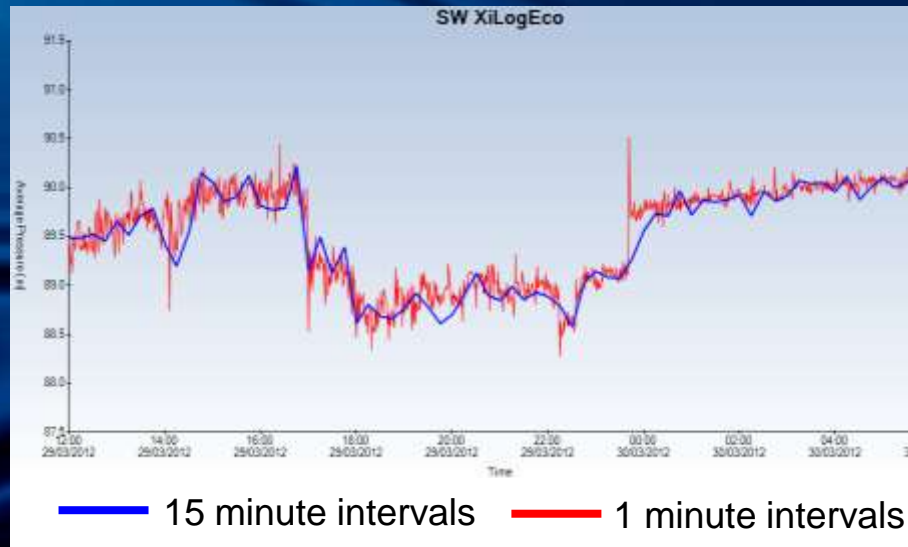
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PRV pressure drop powers data logger



Improving data quality.....

- GPRS transmission every 15 minutes for on-demand data
- Down to 1 second intervals & 2 measurement intervals per channel

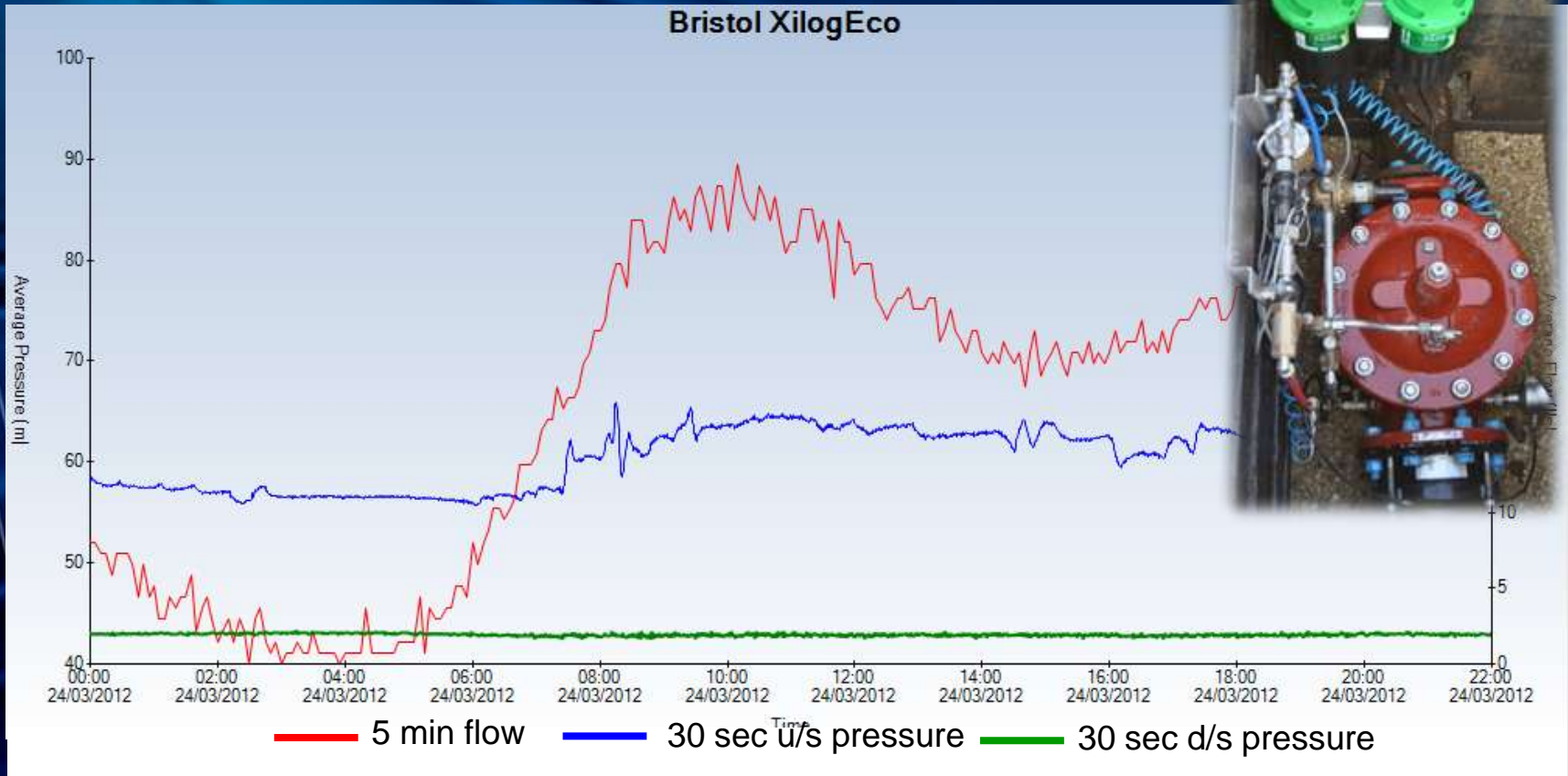


- Analysis valve performance with secondary logging
- Avoids expensive lithium batteries :
 - No site visits for battery replacements
- Power available for flow metering.



Case Study – *Bristol Water (Inns Court)*

- Installed since July 2011



No 2:- Step Testing



GPRS communications

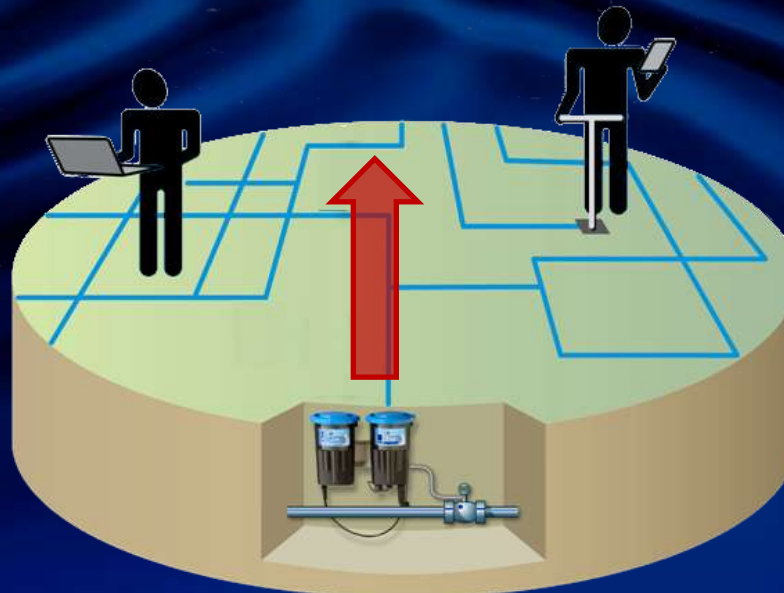
Live data streaming

The proactive approach to managing water networks

WIFI

GPRS

GPRS



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The challenge

- Step testing is a labour intensive night time process with many opportunities to potentially loose data during the test
- How can we reduce the amount of labour and automate the reporting process



Features

High performance
underground antenna
within IP68 housing

2 uni-directional flow for combination meters
Available for all common flow meters

Multiple users can
view live data on
any internet device



1 Pressure channel
with $\pm 0.1\%$
accuracy



Data sampling interval:
10-60 seconds, streamed
live during test

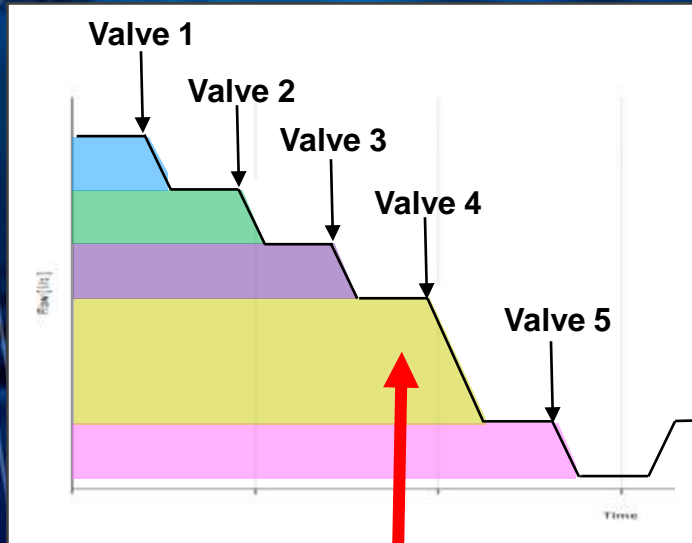
Rechargeable 24
hour battery unit



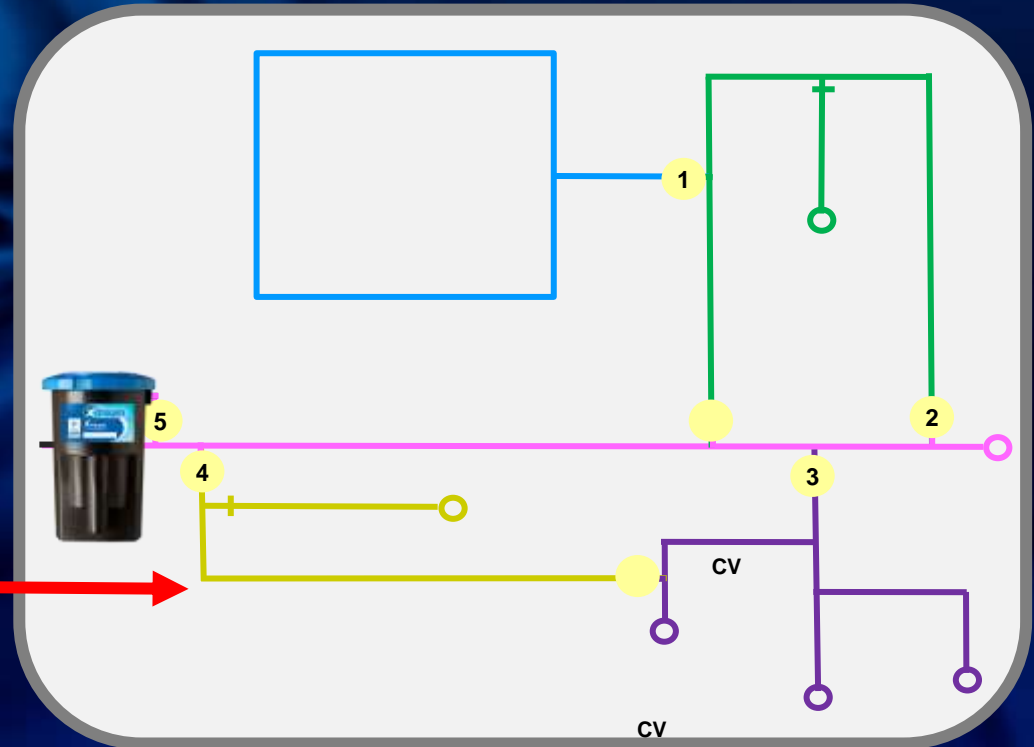
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Step testing



Biggest drop in flow indicates a leak in that area



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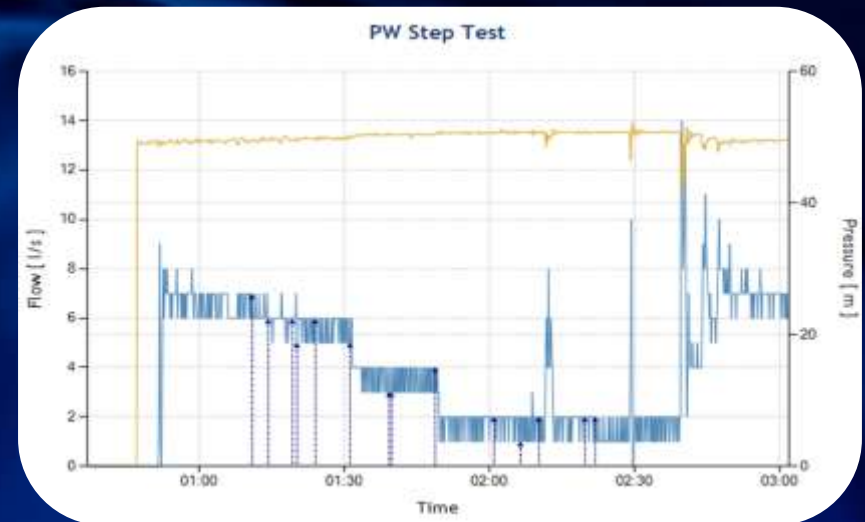
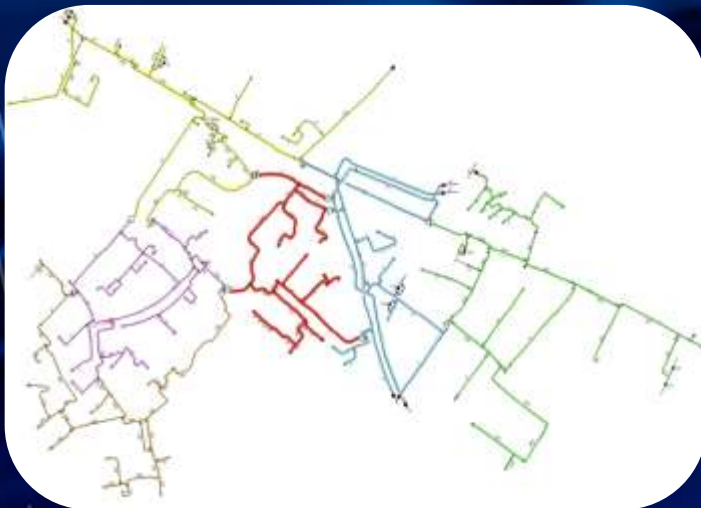
Programming



- Setup tests quickly on-line by using simple XStream PC software
- Live data viewed online through any on-line web browser
- All reports available to multiple users on-line

Case Study – *Traditional method*

- Residential DMA with 6 shuts
- Minimum of 15 minutes between each shut
- Low GPRS signal still updated every 10 seconds
- Shut 2 and 3 both had a 2l/s drop
- 12 leaks were found after a deployment of leakage inspectors



No 3:- Leak Noise Correlation

Eureka³



Innovative new leak location correlator

Based on 15 years proven success with the Eureka2R



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The challenge

- To keep the simplicity of operation of the Eureka 2R in a modern hand set with improved signal processing.
- To improve the way that the leak position is reported once found.

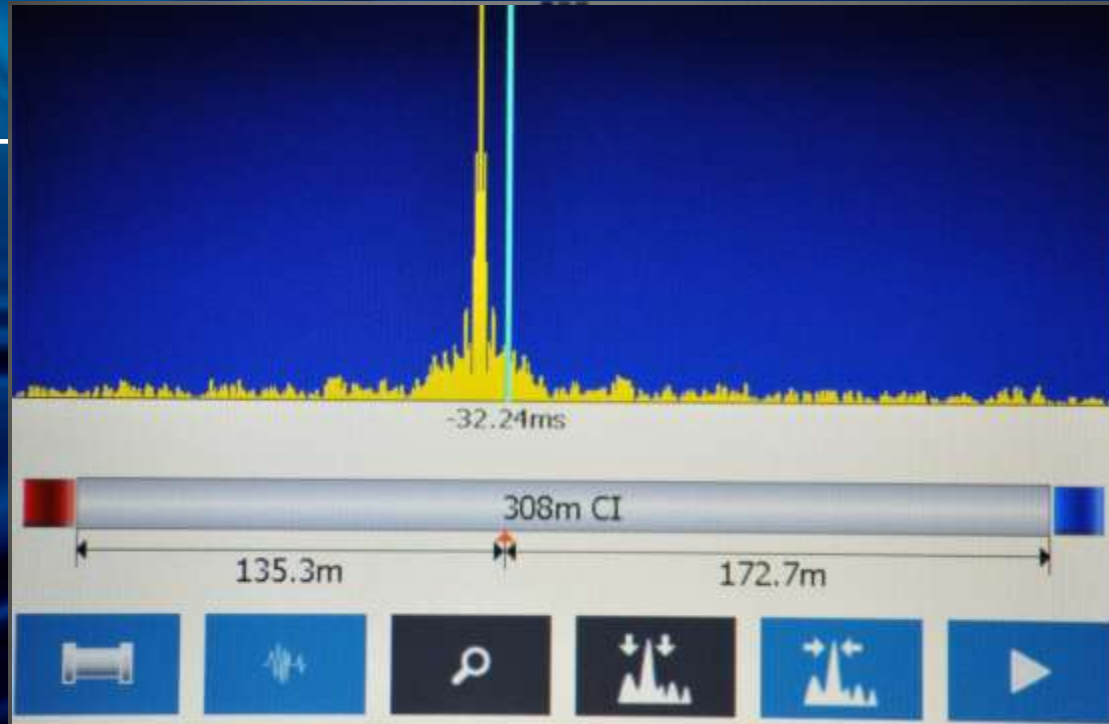
Features

- Built in GPS card to define leak position
- High definition colour touch screen
- Interactive pipe model displays
- Velocity correction function
- Post-processing analysis using the powerful Enigma[®] software
- Detects low frequency leak noise (*down to 3Hz*)
- Fast 24-bit digital sound processing (*analyses more data*)
- Coherence function (*for optimum filter settings*)



PrimeTouchTM – *easy screen viewing*

Red/blue leak
sound spectrum



Coherence
function

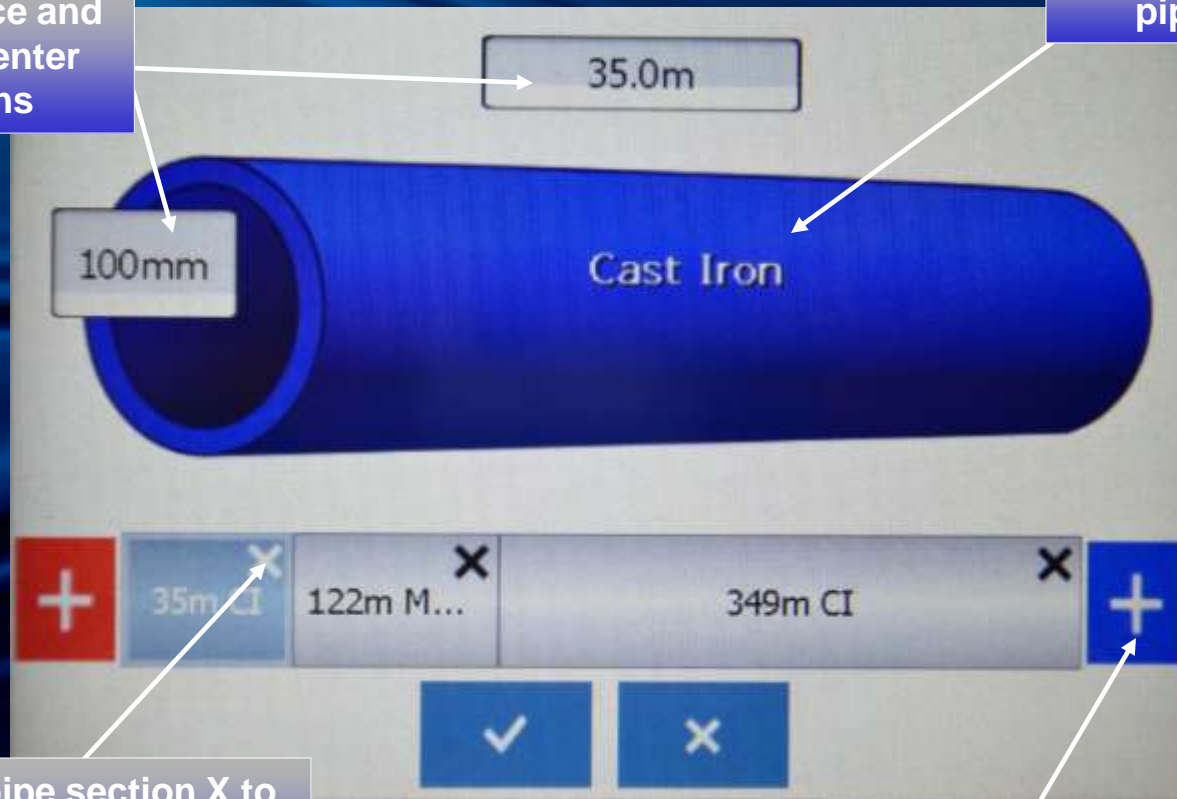
← **Swipe left** **Swipe right** →

PrimeTouch™ – *easy pipe entry*

Eureka³

Touch distance and diameter to enter dimensions

Touch pipe to enter pipe material



Touch pipe section X to delete pipe section

Touch red/blue symbols to add new pipe sections



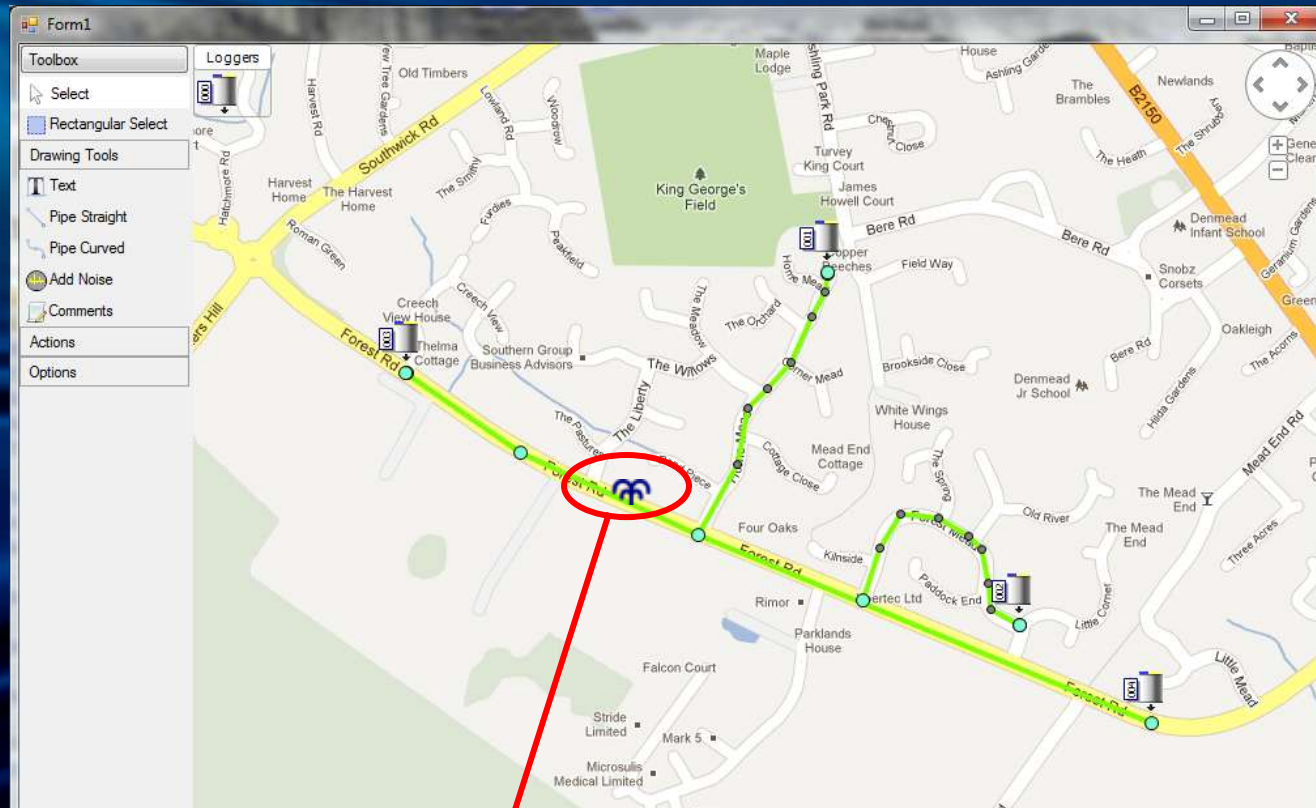
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New Enigma[®] mapping software

Eureka³



Eureka3 has GPS facility to store leak position and transfer to Google Map

Summary

XiLog^{eco}



Xstream



Eureka³



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Thank you