



Protecting Properties from Water Damage

Leak Detection Overview

Presentation Brief

- Leak Detection Overview:
 - Solutions we provide and where each are more effective.
 - How we can partner together to provide the best customer experience.
- Learning Objectives:
 - How leaks are detected.
 - When to use a contact, flow, or notification system.
 - Key Actions to prevent escape of water damage.



The cost of EOW damage has increased in recent years

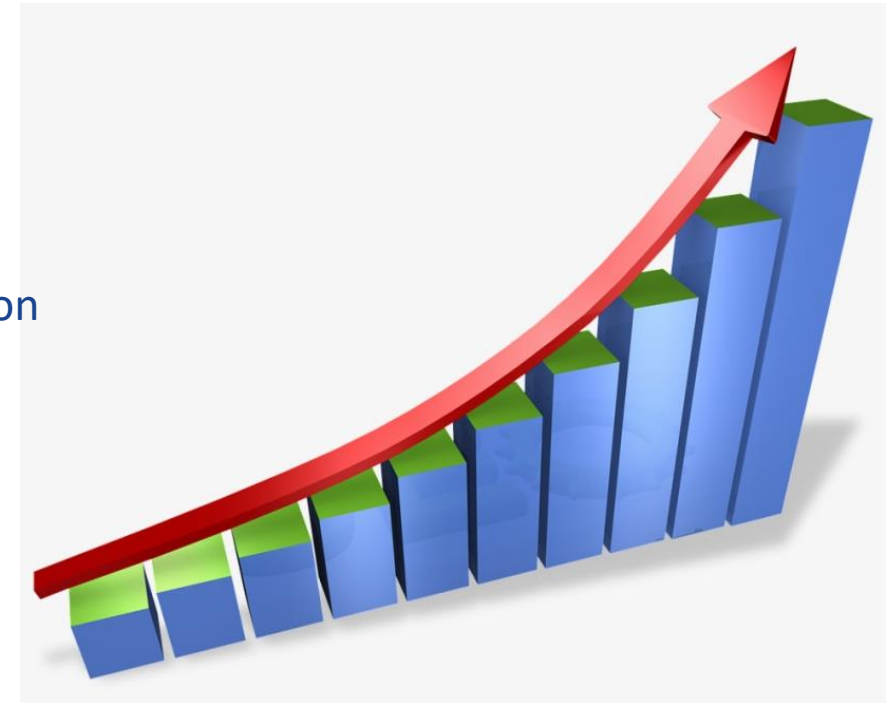
Cost of Escape of Water to the insurance industry has steadily increased:

2015: £730,000,000

2020: £1,000,000,000 (just under)

Why?

- The increase in the amount of water used per head of population
- The increase in the ratio of bathrooms to bedrooms
- Number being built, and height of modern apartment blocks
- Competence of installing contractors
- Modern methods of construction using materials with increased vulnerability to water damage



Insurers

- Insurers hardening their position on escape of water claims.
- Insurers paid out just under £1,000,000,000 each year for the last 2 years
- Second highest cost to the industry after catastrophic fire.

It is estimated that water damage is the second most common cause of loss on building sites and 65% of construction sites suffer water damage at some stage of the build.

- Insurers insisting on a pro-active approach to risk management of escape of water.



Any losses are bad news for both insurers and customers alike

- The relatively low costs of implementing water leak detection technology to prevent 'EoW' losses from occurring in the first instance, are valid reasons for installing Leaksafe.
- A 'prevention first' philosophy is the way to go, because its aim is to reduce the potential damage of water leaks, eventually leading to a win-win for insurers and their customers.
- Having water leak detection systems installed means 'EoW' incidents can be stopped before catastrophic flow occurs.
- It can save time, money and, ultimately, commercial relationships and brand reputations through reduced levels of disruption.



A responsibility to water sustainability



Climate change and population growth are putting increasing pressure on water availability, and we urgently need to improve the overall health of the water environment.

- The demand for water is growing at a steady rate of 1% per year.
- By 2050 it is estimated that there will be a 22% shortfall in available water.

Source: WaterWise UK

Sustainability in the occupied environment

As well as efforts by governments and utility providers, it is the individuals' responsibility to reduce the sheer volume of water wasted through leaks:

- 460 million litres of water are lost each year through dripping taps.
- A 3mm hole in a metal pipe at 2.75 bar leaks 8,450 litres in 24hrs
- A leaking toilet will waste on average 300 litres a day.
- A dripping tap/hose will waste 680 litres a month or 15L per day
- Approximately 1 in every 20 swimming pools has a leak.
- Approximately 1 in every 300 homes or buildings has a leak.
- 35% of people in the UK had a leak in the last 12 months (18 million adults)



Solutions

1. Design water saving and efficiency into buildings
2. Cut Escape of Water with leak detection in new buildings construction & occupation.

Leak detection during construction

- CIREG's Best Practice guidelines recommend:
 - Shutting the water off outside construction hours
 - Measure flow to determine whether there is leak or burst in the building during construction hours
 - Installing leak detection on the incoming supply and on each floor



BENEFITS

Contractors and clients benefit from leak detection

Cost and disruption are kept to the absolute minimum BECAUSE any leaks are detected early

Strict risk mitigation protocols will benefit construction firms:

- Insurance renewal negotiations
- Avoiding project completion delays and penalties
- Reduction in cost to contractor of remedial action in the defects period.

Client benefits:

- Sale completions on time
- Reputation



What is a leak?

Catastrophic bursts

- Plumbing failure
- Weather related, burst pipes etc.



Majority are low level leaks

- Run for some time
- Often unseen
- Cause significant damage



Risk areas typically

- Kitchens & laundry appliances
- Bathrooms
- Boiler / cylinders
- Tank storage

How are leaks detected?

Leak detection works on two principles either separately or in combination:

Contact – where water contacts a sensor that triggers a response – localised leak detection:

- shut off
- notification

Flow – where volume or rate of flow triggers a leak alarm – flow monitoring:

- shut off
- notification

When to use a contact, flow or notification system

LeakSafe are not a “one product fits all” provider

We look at:

- Type of occupancy
- Building and facilities management
- Effect water shut off will have on the occupier
- Access to supply pipes
- Access to appliances and fittings

Nationwide survey service with report & recommendations



Designing leak detection into occupied buildings

- Leak detection protecting the construction site can be retained by the client.
- Provides manual or emergency shut off for each floor in the completed building, and will count towards BREEAM compliance. Passing on 'Best Practice'.
- Leak detection on incoming and per floor is too general in all but factory and office accommodation.
- Individual properties within a building are just that.




Leak detection: A proactive approach to managing EoW risk

- Utilize planning, risk assessments, emergency response and proactive maintenance.
- Incorporate design, accessibility, installation, testing and commissioning.
- Selecting the most appropriate technology for the occupation and end use of the property is essential.
- Installing leak detection systems at the construction phase significantly reduces cost compared retrospective installation.
- Ensure there will be an appropriate response to the detection system being activated and selected personnel are system trained.
- Maintain the LeakSafe detection system on a regular basis incorporating the use of the client Dashboard.



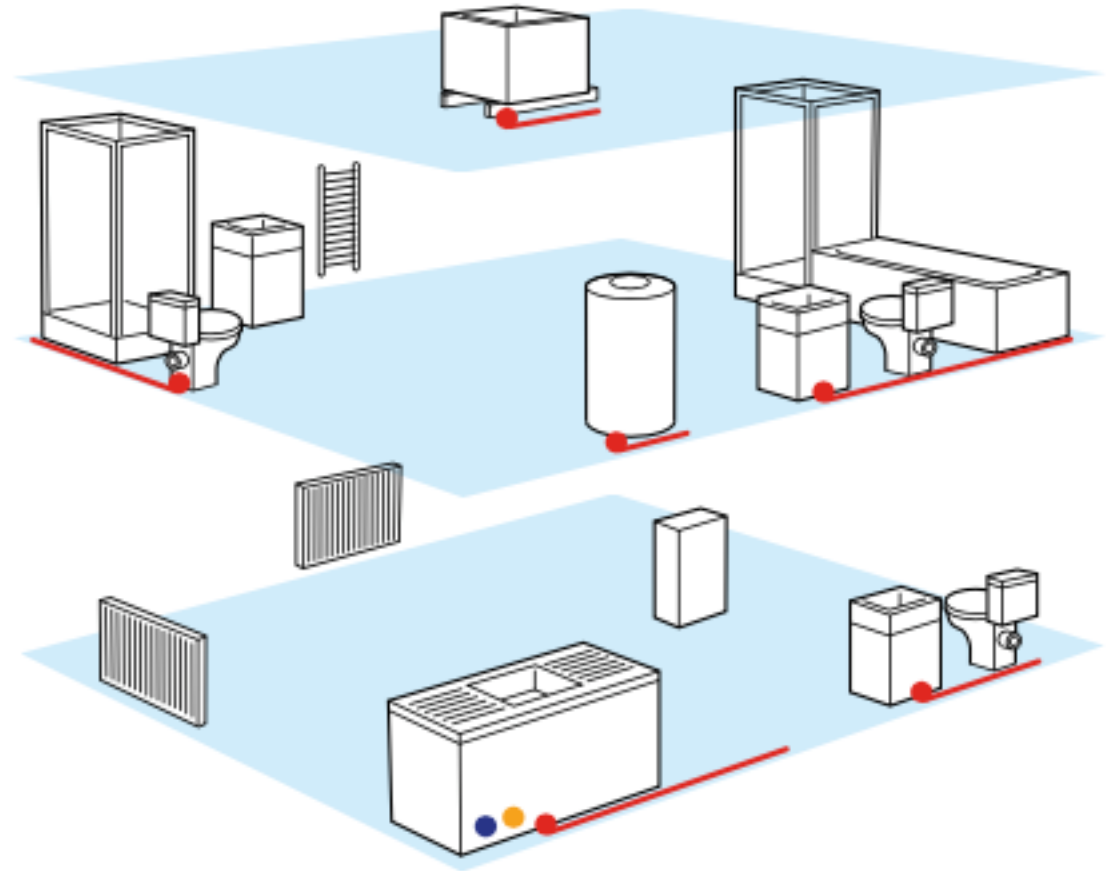
LeakSafe systems - WaterSwitch



LEAKSAFE PRODUCT
WaterSwitch

Automatic water shut off and localised leak detection system.

[More details](#)



- Shut off valve
- WaterSwitch Valve Control
- Wireless transmitter and leak detection tape

Wireless
Contact & shut off
Optional flow & notification

Retro fit

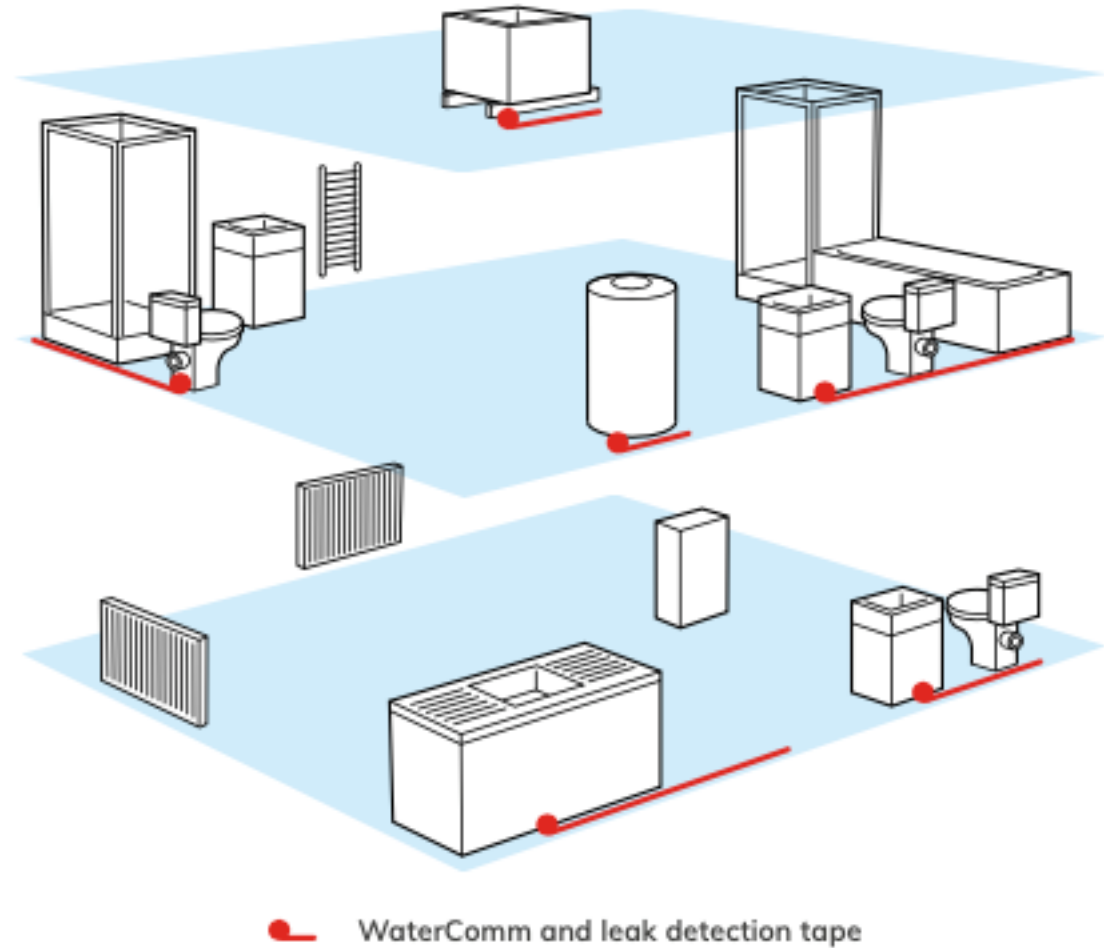
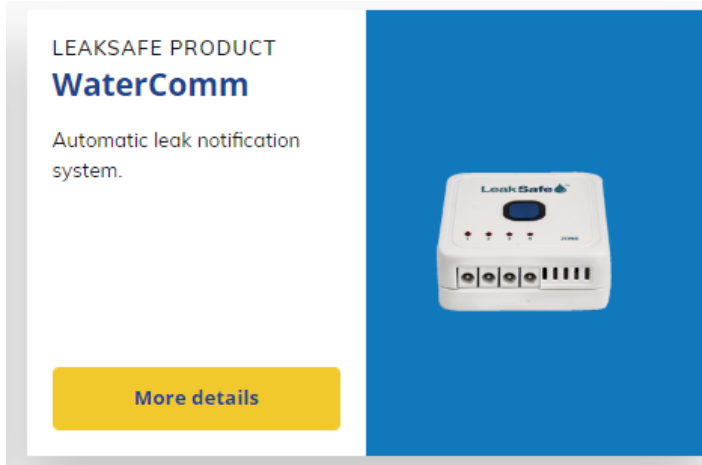
- Apartments
- Offices
- Mixed use
- Private residential

New Build

Construction sites



LeakSafe systems - WaterComm



Contact & notification

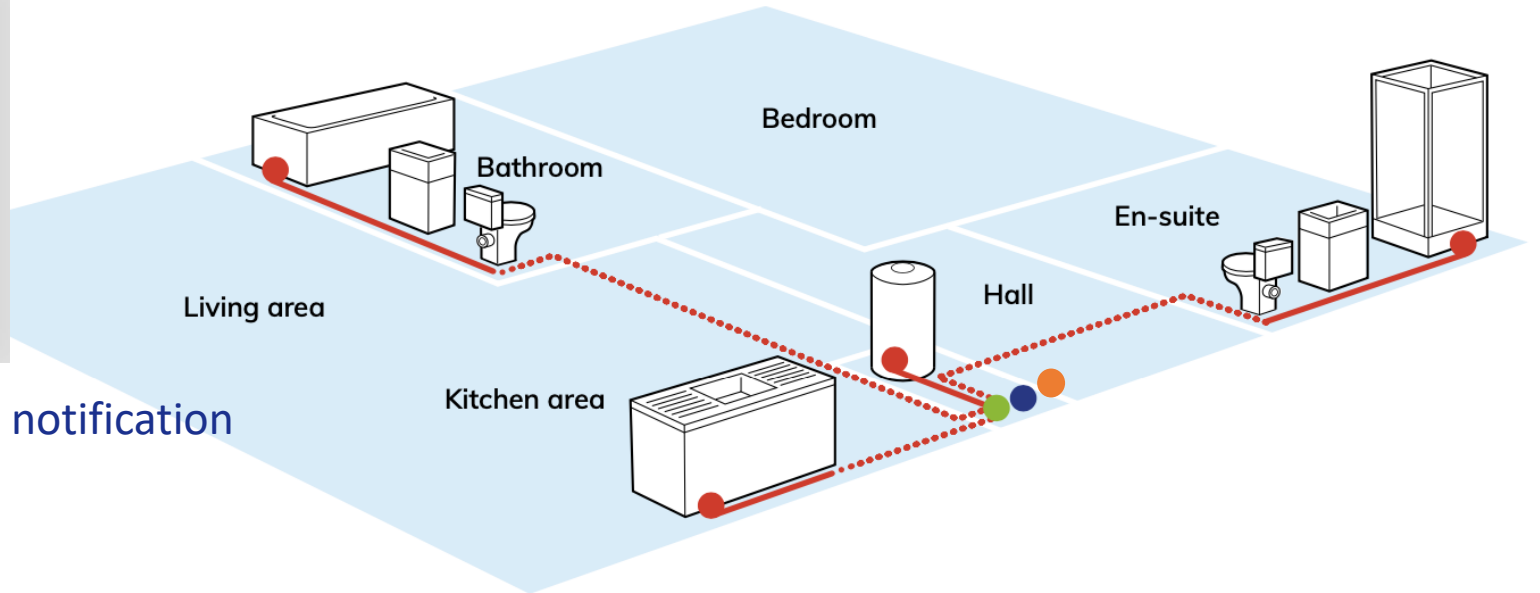
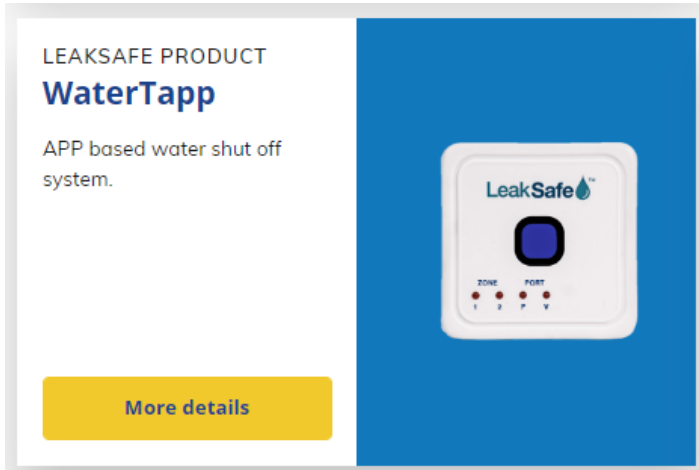
New build & retro fit

- Apartments
- Offices
- Hotels & Leisure
- Care homes

Mixed use
Student accommodation



LeakSafe systems - WaterTAPP



Wired contact, flow, shut off & wifi notification

New build

- Private residential
- Offices

Retro fit

- Private residential
- 2nd & holiday homes
- Offices

- Flow meter
- Leak detection tape – up to 4 zones
- Shut off valve
- WaterTAPP Control Panel
- Connecting cable

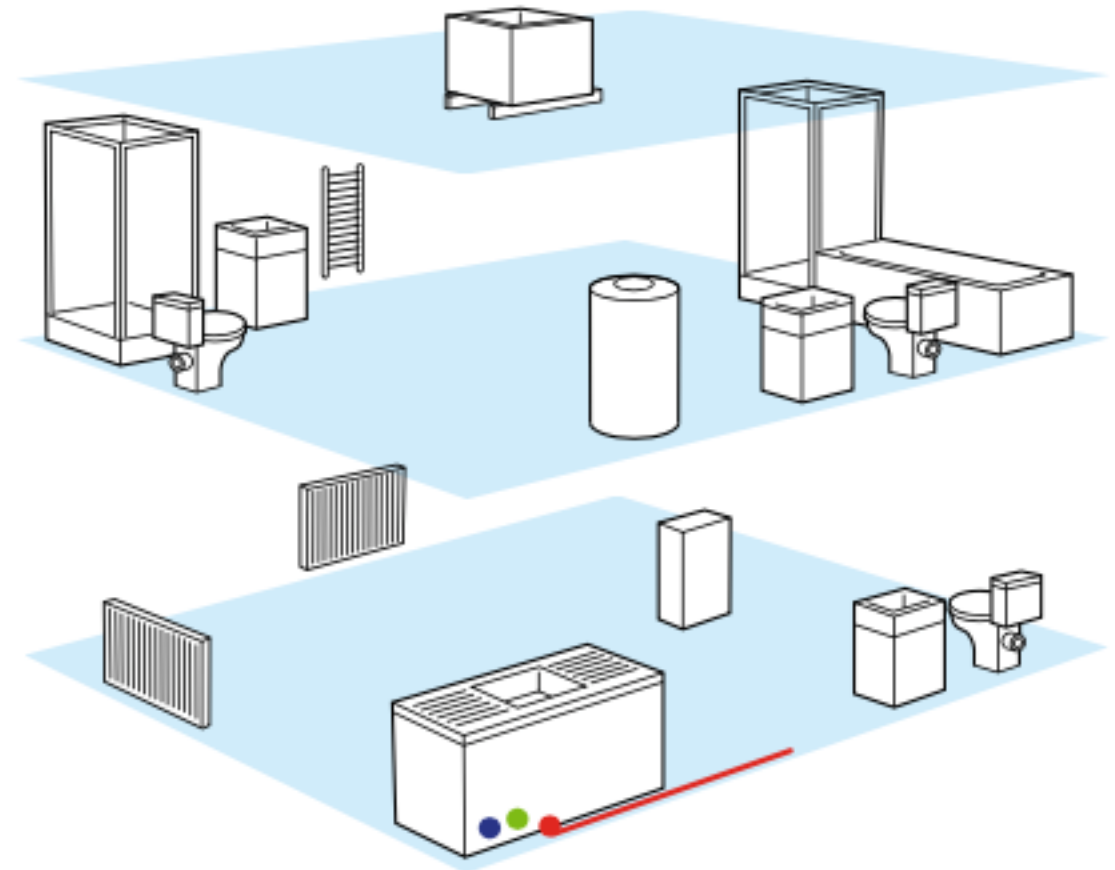


xFlow - For construction sites and properties where localised leak detection is not possible



- Wired contact
- Flow monitoring
- Shut off & notification
- Valve sizes: 15mm – 100mm

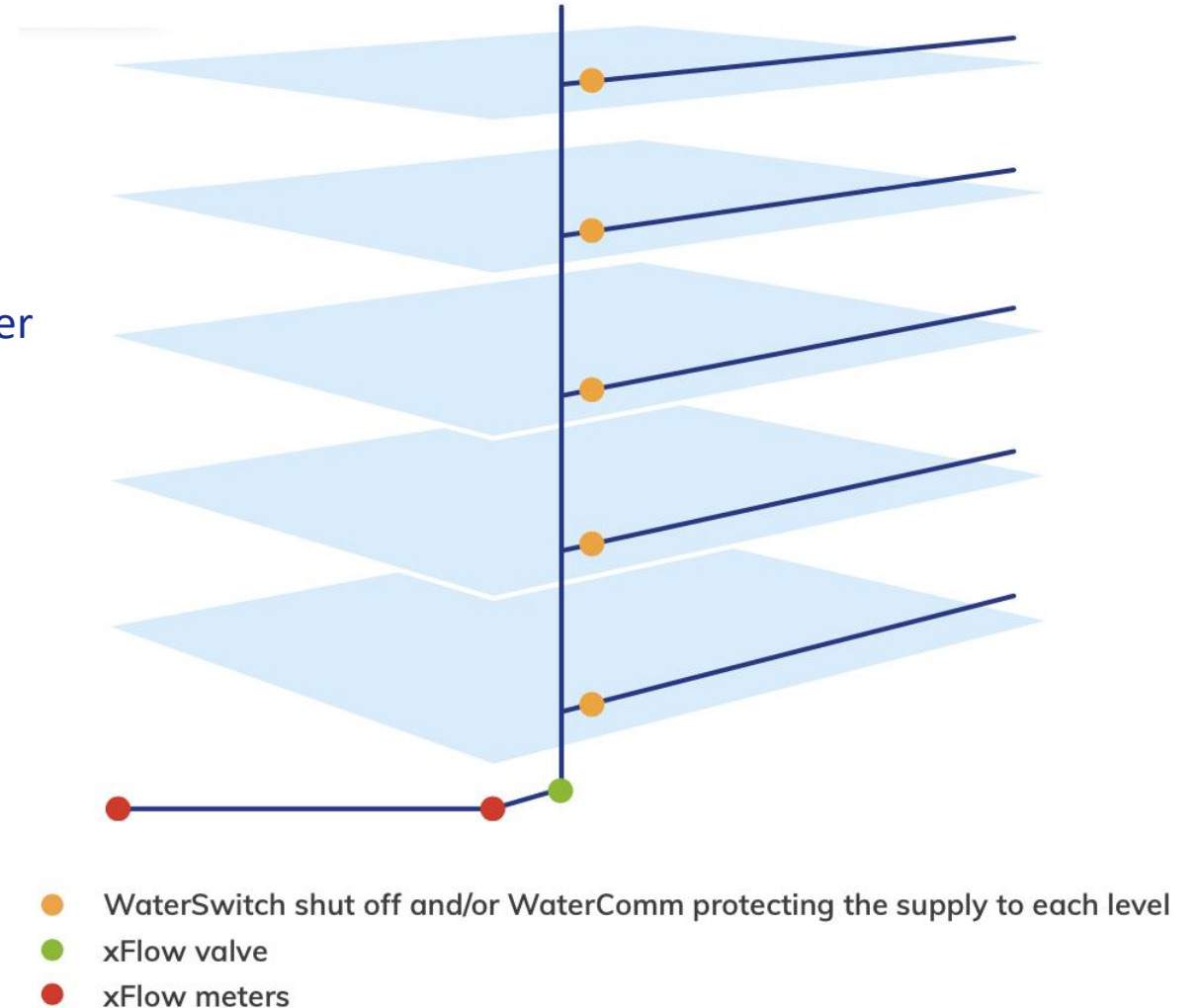
<https://leaksafe.com/products/xflow/>



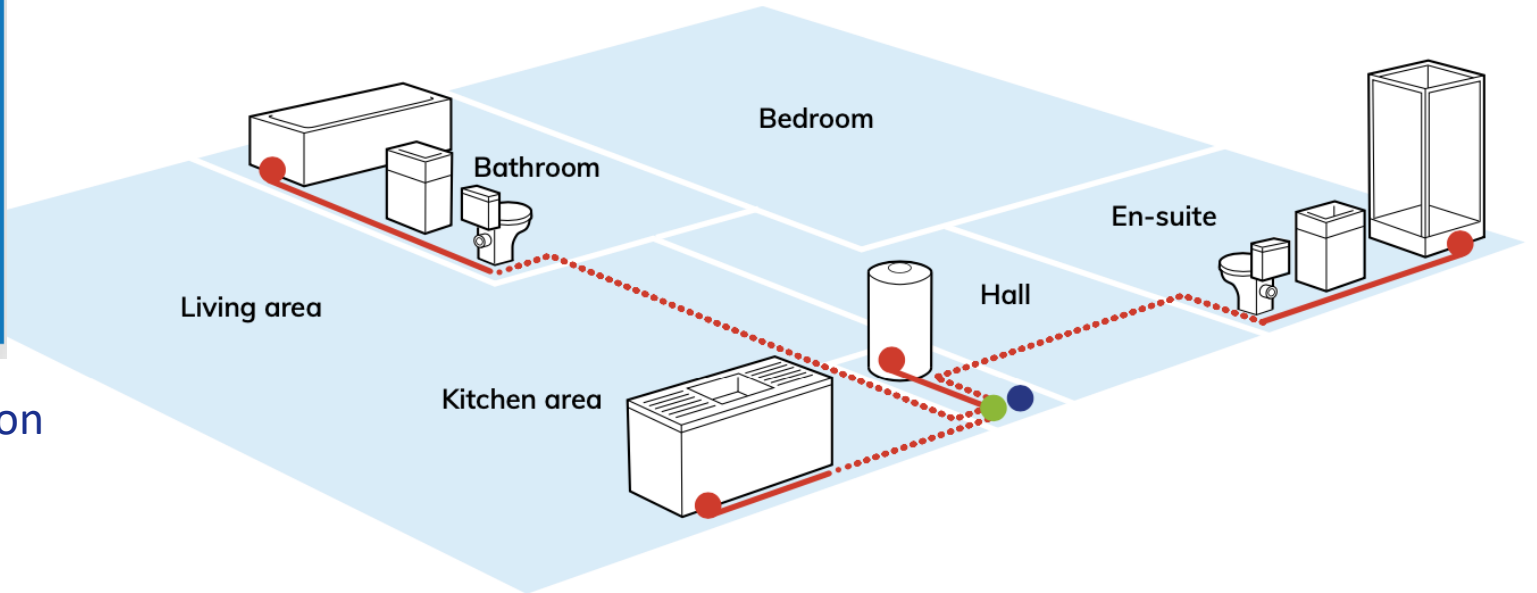
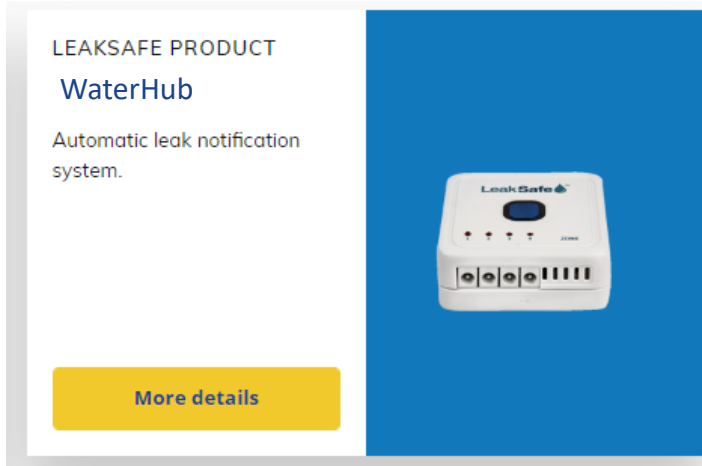
- Shut off valve
- Flow meter that monitors flow throughout the property

During construction - xFlow

- Flow based shut off leak detection on incoming supply or after pump set
- Shut off or notification system to each floor
- Identifies catastrophic burst or continuous flow over time
- Timed hours by day of the week
- Manager override
- Notification direct to site managers
- BREEAM compliant once building occupied



LeakSafe systems - WaterHub



- WaterHub
- Shut off valve
- Connecting cable wired back to WaterHub
- WaterHub Leak detection tape



Block of apartments Piccadilly London - WaterComm

Award winning refurbishment of art deco building completed in 2015

- 2018 Leaksafe commissioned to install leak detection due to the number of building claims for EOW
- 2019: 256 leak alarms registered on client dashboard
- 2020: 20
- 2021: 2
- 2022 (to date): 2



Block of apartments Piccadilly London - WaterComm

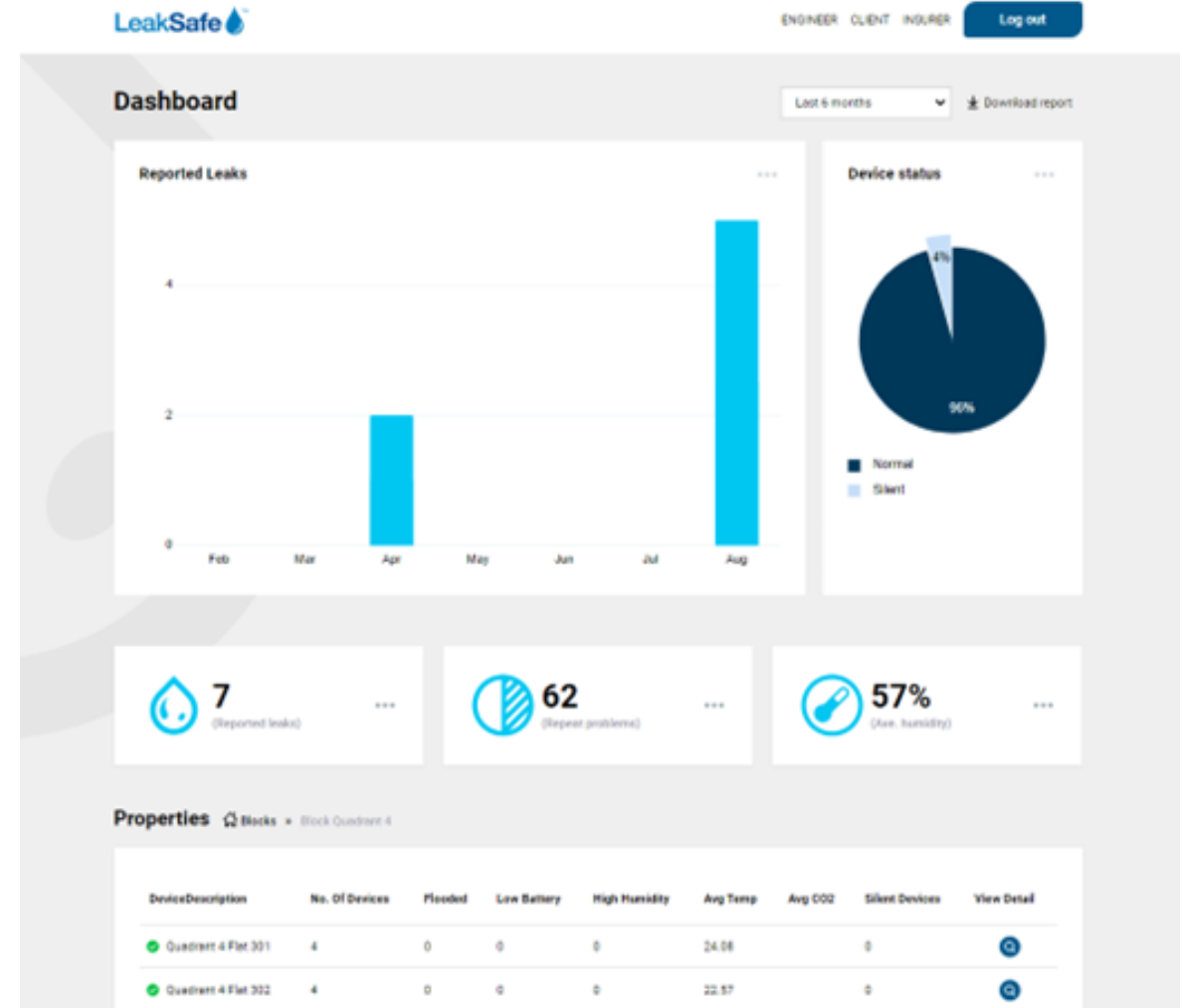
Management dashboard for individual blocks or portfolio of properties for:

- Insurer (where data sharing agreed)
- Owners / leaseholders
- Property managers
- FM providers

Summary information on status of blocks and equipment in each block:

- Active leaks
- Temperature
- Humidity
- Battery level
- Silent devices

Downloadable CSV reports



Student accommodation block Edinburgh - WaterComm

LeakSafe commissioned to install leak detection to pod connections of new build student accommodation – 271 rooms.

24 leaks identified within the first 16 weeks of installation.

As leaks picked up immediately, the cost of rectification was:

- below insurer excess
- within contractor defects period.



Apartment block – London - WaterSwitch



Block of 14 apartments

Claims over 3 years before leak detection installed:
£143,000

LeakSafe WaterSwitch installed into each flat

14 low level leaks identified in the first 4 weeks
following installation

No claims in the 2 years since installation.

The freeholder said “As far as the worth of the LeakSafe technology is concerned, speaking as the freeholder ... I can state that the management time ...expended dealing with water leaks since completion of the installation of the LeakSafe system is nil, compared with the hours and hours that were spent dealing with water leaks during the first few years of our ownership ... If leaks can be detected early, prior to any substantial damage being sustained, it makes for much easier management of the block.”



New build apartment block Kings Cross - WaterHub

Original specification was for notification only in 3 apartment block development – 218 apartments.

Project shelved during pandemic.

Significant losses incurred by the developer in other completed projects during the pandemic

Client has changed the specification to a WaterHub shut off system to mitigate EOW risk despite the increased cost of equipment.

Zones covered – PUC, kitchen
Bathrooms – average cost
£535 per apartment



Living Wall – New Build Corporate HQ - Abingdon

xFlow automatic shutoff on main
Incoming supply to buildings

8 weeks after installation xFlow
picked up a leak on underground
supply pipe between buildings that
could have run for months unnoticed.

WaterSwitch3 to tank supply to
2 x living walls - automatic shut off
if continuous flow detected from tanks plus high-water sensor on tank to stop overflow.

WaterComm notification to 24/7 on site maintenance team.



Problems, Obstacles & Potential Solutions

- Underwriters are trying to insist on economically viable protective measures that can be installed during the Construction of buildings to protect or mitigate escape of water damage.
 - The conversation with Investors, Developers and Architects must be held at design stage to ensure that the EoW is not only a consideration but essential to the project itself.
- It is tough to influence a contractor who is competitively tendering and dealing with an employer who has not specified any EoW technology.
 - The cost of retro fitting leak detection is double that of installing during construction. It depends whose budget the install is allocated to and when they are made aware of the insurer's requirement.



Problems, Obstacles & Potential Solutions

- Tight budgets mean that many projects are 'value / cost engineered'.
 - There is no 'value' in removing leak detection as the 'cost' will become obvious when EoW occurs. It is based on a risk / reward mindset for prevention over cure.
- Escalating costs of labour and materials will always put pressure on any perceived 'non-essential' spends.
 - Conversations need to take place to change perceptions with the reality of actual data.



How can we partner together to provide the best customer experience?

FREQUENT COMMUNICATION

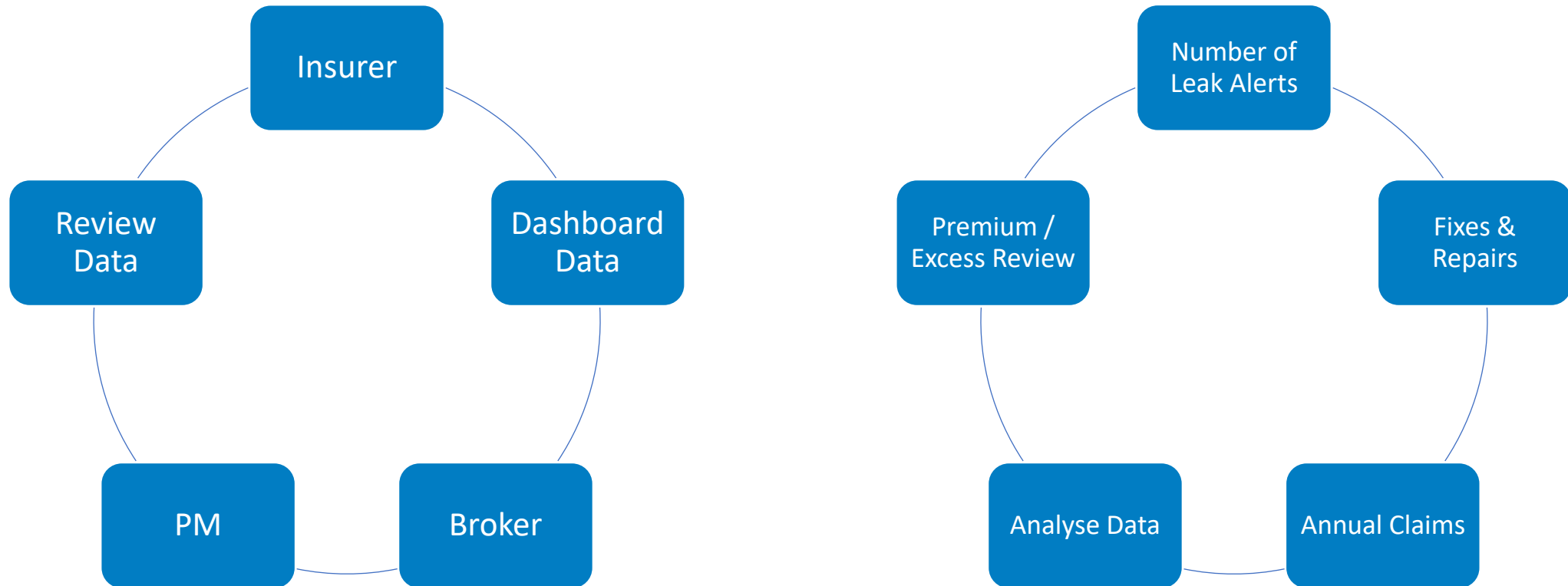


How can we partner together to provide the best construction customer experience?

- Assist and / or attend meetings to support insurer.
- Work with clients, consulting engineers and main contractors to determine the most efficient and cost effective leak detection system for a construction site.
- Work with the M&E contractor during installation. We also provide a Leaksafe approved contractor if required.
- Key members of the Operations Team hold CSCS cards to comply with the Health & Safety requirements of the site when installing, programming and commissioning our systems
- The Operations Team at Leaksafe are on hand to provide unlimited telephone support during and after the installation.
- Continued and unlimited support including online resources for occupiers once the building is handed over.



How can we partner together to provide the best customer experience?



Conclusion

Proactively enhance the awareness and mitigation of Escape of Water by:

- Developing thought leadership on EoW
- Reviewing best practice in the construction and built environment
- Understanding how clients can minimize risk
- Actively monitoring as a level of inspection and maintenance
- Asking what clients can do from a management control perspective



Contacts

Andy Welch

Senior Business Development Manager

M: 07553 594781

O: 0344 848 0488

E: andy.welch@leaksafe.com

W: www.leaksafe.com



Contact us

If you would like more information on our range of leak detection systems, please either call us on the number below, visit our website or email us.

LeakSafe Solutions Limited

Unit C Rose Court, 89 Ashford Road, Bearsted, Maidstone, Kent ME14 4BS, United Kingdom



0344 848 0488



www.leaksafe.com



info@leaksafe.com

Andy Welch, Senior Business Development Manager M: 07553 594781

E: andy.welch@leaksafe.com

