

INNOVATION GATEWAY

Round 2 2017 Challenge Brief

Managing water use and quality



Challenge Brief:

Reducing water consumption of showers

The challenge

The Innovation Gateway Partners see water as a resource that needs to be better managed, particularly as some are operating in water-constrained areas. Showers use a significant amount of water and energy (water heating) and require significant maintenance effort to reduce the risk of bacteria and legionella.

The solutions we are seeking

Innovative technologies, approaches, and products that can:

- Reduce water use by showers
- Reduce energy use in heating water for showers
- Reduce the maintenance effort required to manage legionella risk.

The partners are interested in solutions for use in both commercial and residential buildings.

Further information

Showers with thermostatic valves are currently used by some partners. Some partners have mixer showers supplied by electric water tanks.

Selection criteria

- Can be simply retrofitted to existing facilities.
- Has no impact or improves the user perception of the showering experience.
- Payback under 5 years.
- Can work across a portfolio of facilities, front of house and back of house.
- Meets relevant regulatory requirements.

Challenge Brief:

Reducing water use of toilets and washrooms

The challenge

The Innovation Gateway Partners see water as a resource that needs to be better managed, particularly as some are operating in water-constrained areas. Toilets and washrooms form a significant part of overall water usage by the Innovation Gateway Partners.

The solutions we are seeking

An innovative technology or approach that can help minimise the overall water consumption and increase water efficiency of the toilet and washroom facilities without impacting on user perception and quality scores.

The partners are interested in solutions for use in both commercial and residential buildings.

Further information and criteria

Standard toilet cisterns, waterless urinals, and low flow 3.5 l/s tap adaptors are currently being used by some partners.

Selection criteria

- Can be simply retrofitted to existing toilet facilities.
- Has no impact or improves the user perception of the facilities.
- Payback under 5 years.
- Can work across a portfolio of facilities, front of house and back of house.
- Meets relevant regulatory requirements.

Challenge Brief:

Logging and monitoring of water use

The challenge

The Innovation Gateway Partners see water as a resource that needs to be better managed, particularly as some are operating in water-constrained areas. Traditionally, water meter data has been hard to access with data coming from manual meters readings feeding back to utility providers with the site consumption appearing on water bills. In addition, it is not always easy to physically access water meters to take readings for internal records.

The solutions we are seeking

Innovative logging solutions that can be attached to existing water meters to provide accurate and up to date data about water consumption across the estate for bill validation, night time leak identification and benchmarking of building consumption.

These loggers should not impact the existing meters and should be fit and forget to send information on a daily basis at a cost less than the same service from a water supply company. They will remain on the property of the estate and should not be impacted by any future changes of suppliers.

Further information

Water meters are supplied by the local water company, with many underground in flooded cabinets.

Selection criteria

- Can work across building portfolios in demanding locations where water meters are normally found.
- Priced at a level that is sufficiently affordable to be rolled out to hundreds of buildings.
- Battery powered logging solution with mobile data uplink.
- Data stored in cloud.
- Can feed information into aM&T systems either directly or via a FTP link.

Challenge Brief: Reducing the risk of Legionella

The challenge

The Innovation Gateway Partners need to manage the risk of legionella in the water systems in order to safeguard the health of their buildings' occupants. In some circumstances, water systems can show elevated legionella counts that require management. Activities such as disinfecting take place which solves the problem for a short period. However, the elevated counts sometimes return quickly, probably as a result of biofilm attached to the internal walls of pipes.

The solutions we are seeking

Innovative technology, solutions, and approaches that will reduce legionella risk to human health and the cost of effective legionella management regimes. Potential solutions include improved legionella detection techniques, non-destructive ways of reducing biofilm growth, identifying biofilm growth within closed pipework, legionella removal techniques and methods to prevent future growth.

Selection criteria

- Demonstrable ability to reduce health risks associated with legionella in commercial buildings.
- Demonstrable ability to reduce costs of legionella management in commercial buildings.
- Works with potable water and keeps it free from risk to human health (i.e. no human toxicity).
- Meets relevant regulatory requirements.
- Ability to operate in closed systems.