

INNOVATION GATEWAY

Challenge Selection
Round 1, 2019

Innovator Briefs – Improved Occupant Experience



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Improved Occupant Experience

Indoor air quality

The challenge

Our Partners, who own and maintain buildings that are used for multiple occupancies, have been receiving increasing numbers of queries about indoor air quality. Currently, there is some measurement of humidity and CO2 and the Partners are aware of the need to measure other aspects such as NOX and VOC's.

This is particularly relevant to older buildings within the Partners' estates that may always have had poor ventilation, or sites with MVHR that is performing poorly/reaching end of life. Many older buildings have issues in shower rooms/en-suites with mould caused by poor ventilation.

The challenge is to identify a solution that will help partners measure a range of indoor air quality factors to enable them to act where necessary to improve indoor air quality.

The solutions we are seeking

The solution would ideally be mobile, so that it may be moved from property to property. A successful solution could be deployed in a property with a suspected air quality issue and provide the business case to install equipment/make interventions in that property.

As the equipment may be deployed within tenant bedrooms, any equipment would need to be robust, secure and tamper-proof. This means It would need to be able to be fixed to a wall for a fixed period of time.

Further information

A better understanding of air quality will allow the Partners to understand when MVHR/extraction units are not performing as they should and prompt action. It will also allow them to build a view of air quality throughout their estate.

This knowledge can then be fed into specifications and be used in building business cases for the upgrade of ventilation/MVHR. Primarily, the main driver is to increase wellbeing in buildings.

Partners would be interested in a small level of support to help with understanding the data initially.

Selection criteria

- The solution needs to be mobile so that it can be moved easily and not tied to a single building.
- Being able to see the data from an online platform is useful but not required. Attending site after a week of measurements to download the data would be acceptable.
- A mature and proven solution is sought for this challenge.
- The solution must be easy to use by members of staff.
- The solution will need to be battery powered.
- Cost will be a consideration, but the Partners will be open-minded given the reusability required.

Access control system to manage lock-outs in tenanted accommodation

The challenge

The Partners would like to simplify the process of dealing with tenants who lock themselves out of their accommodation at bedroom, flat, or main entrance level.

Lockouts cause customer dissatisfaction and are a health and safety risk for tenants. They create a significant workload, management burden and cost for the Partners.

The challenge is to identify an access control system that can operate at all levels (i.e. main entrance, flat entrance, bedroom entrance) and allow for centralised control that will enable locked out tenants to be identified and then let in.

The solutions we are seeking

The solution should be future proof, scalable, and secure while being easy for tenants and staff to use.

The solution would ideally be a digital solution that overcomes the problem of tenants being locked out, without keys or phone.

The solution should have an independent central control system that the security team can use to enable access remotely.

Any installation work is likely to occur over short periods where the property is unattended, so the solution needs to be rapid to install and ideally retrocompatible without significant carpentry work/ replacing whole doors or frames, and without running mains power to all doors.

Further information

Generally, RFID card or fob systems are used at the moment. The Partners have undertaken reviews of access systems and are aware of Bluetooth, RFID and Biometric systems. Systems have been discounted where they still rely on a physical key device or mobile device.

Whilst not ideal, solutions may be considered where they enable locked-out tenants to obtain access to a property safe zone to await security.

The Partners are interested in seeing solutions that are capable of printing new access key cards upon signal from a central security centre.

Selection criteria

- Compliant with all necessary regulation (e.g. GDPR) and standards, be CE marked and Secure By Design rated.
- A secure system that is not vulnerable to hacking.
- No significant cost uplift compared to incumbent system.
- Simple and relatively quick to install, easy to use, easy to manage. Minimal ongoing maintenance requirements.
- Solution will be battery operated and not require a mobile phone.
- Mature proven system with a well-established supply chain, that is easily available.
- Potentially 10,000s required so as low unit cost as possible.

Tamper-proof fire alarm detector heads

The challenge

The Partners properties have fire detection and alarm systems to protect building residents from fire and to ensure legal compliance. This includes fire detection heads in tenant bedrooms and kitchen areas.

A known issue is tampering with fire detector heads. Tampering can take the form of attempted removal or covering (with a plastic bag, cling-film, a sock, etc.).

The challenge is to identify a solution that prevents tampering/covering of fire alarm detector heads, or automatically alerts management/warns tenants (e.g. via localised alarm) if fire detection heads are covered/tampered with.

The solutions we are seeking

The solution should ideally be compatible with existing and new build solutions where a variety of different proprietary fire alarms are used. The solution could be a replacement but retro-compatible fire alarm head for use with existing and new development properties.

A successful outcome would be a solution that improves overall safety by preventing people from tampering with fire detector heads. This could be something to physically prevent or make it harder to cover detector heads, or to send automated alert or sound local alarm if it is found to be covered.

The solution should also be aesthetically acceptable (e.g. an institutional/industrial looking protective cover is unlikely to be acceptable).

Some systems will be fixed on solid ceilings so could not be recessed or flush-fitted.

Further information

Currently, the Partners rely on management processes for logging and reporting covered detector heads during routine inspections, and labels/signage warning "do not cover".

Optical/IR camera/beam type detectors may not be acceptable due to concerns over surveillance and small size of rooms.

An aspirator type system similarly may be deemed unacceptable due to high cost, maintenance and aesthetic impact.

The solution must not use Wi-Fi as this can provide an unstable service. 4G service, etc. is a possibility.

Selection criteria

- Easily installed, retro-compatible, inexpensive, aesthetically acceptable, unobtrusive.
- Compliant with all necessary regulation and standards, and be CE marked.
- A well-established supply chain.
- Ideally, a ready-to-deploy solution, with a proven track record, but will consider others depending on risk/complexity.
- Low unit cost.