

INNOVATION GATEWAY

Challenge Selection
Round 1, 2019

**Innovator Briefs – Improved Building Performance
and Construction**



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Improved Building Performance and Construction

Building fabric of heritage buildings

The challenge

The Partners would like to improve the thermal performance of the building fabric of their heritage buildings, which have numerous associated problems including difficulty of access and strict planning laws.

The Partners have old, listed, heritage and feature buildings within their portfolios generally have poor thermal performance. Increasing insulation in these buildings is difficult - external insulation is often not an option due to conservation status and internal insulation can be difficult because of building features, cost, space and work required.

The challenge is to find innovative products which could improve thermal performance of these buildings without having a significant visual impact.

The solutions we are seeking

The solutions will reduce heat loss, cutting energy consumption and improving thermal comfort.

There are issues with draughts around windows and doors, and damp and condensation from difficult to insulate solid walls.

Envisioned solutions include, for example, thin insulating panels, paints or coatings, but the applicability of these will depend on the type of building.

Further information

Limited options have been considered to date, usually taking the form of simple draft-proofing or improving efficiency of heat sources where possible.

Selection criteria

- Improved thermal performance and reduced energy consumption.
- Limited visual impact.
- Would consider trailing an early stage technology.
- A payback of under 10 years is preferred.
- Innovators that have an understanding/ experience of working with heritage buildings are desirable.

Durable internal wall construction and/or finishing

The challenge

The Partners are investigating how they can change the construction or surface finish of internal walls in high traffic areas such as corridors, stairs and common areas to make them more durable, easier to maintain, longer lasting and less prone to damage.

Internal walls in high traffic areas receive high levels of damage (both wear and tear, and malicious damage) which results in tired looking buildings and high costs for maintenance and repainting.

The challenge is to find a solution that will improve/maintain the current aesthetics of their properties and reduce the frequency of repair and repainting.

The solutions we are seeking

Solutions could be:

- durable construction methods/materials for new builds,
- retrofittable cladding or other finish e.g. paint,
- other protective elements to guard against impact, abrasion, scuffs, dirt, splashes etc...

These solutions should be aesthetically acceptable, and not make buildings look institutional. The appearance should not have colours, designs or finishes that will date quickly before end of product life. Solutions should be easy to clean, have longer lifecycle than current painting regime (around 8 years), and potentially display a reduction in time, cost and skill needed for installation/application compared to traditional finishes.

Further information

Currently, internal walls are traditionally finished (plaster board, skim, paint) and with high durable paint, and some edge/corner protection.

The Partners will require solutions to fit within their specific brand guidelines. Further information, including Pantone colours, can be provided.

Selection criteria

- Easy and quick to install/apply, durable, long life, well established supply chain, easily available, safe and compliant.
- Mature solution; ideally market ready or already available.
- Potentially 10,000s required so as low unit cost as possible.
- Solutions could be used for both new construction and retrofit.
- Compliant with all necessary regulations and standards and CE marked. Fire performance would be of particular importance given these spaces are often fire escape routes.