



MODELLING AND PREVENTING MOULD GROWTH

USING IOT TO IMPROVE THE HEALTH AND WELL-BEING OF TENANTS IN CORNWALL



PROJECT SNAPSHOT

Smartline is a collaborative research project exploring the relationships between people, technology and wellbeing leading to new products, processes and services in smart housing and smart communities.

The project aims to provide data about the people living in Cornwall to enable data-driven decisions to be made on policy by Cornwall Council.

One of the programmes within the project, led by Dr Tamaryn Menneer, is focused on modelling mould

growth using relative humidity and temperature time-series data within the properties of a Housing Association.

Mould is recognized to have an adverse effect on health, causing and exasperating respiratory illnesses such as asthma. Despite this, it's estimated that approximately 75% of all claims made by tenants to Housing Associations are focused on mould and the environmental conditions that lead to it.

Using the VTT model which predicts mould growth from relative humidity (RH) and temperature, and Invisible Systems temperature and humidity sensors, a study is in place to model and prevent mould in 274 homes in the Cornwall region.



PROJECT OUTCOMES

To date, the study has identified that smart monitoring using Invisible Systems IoT sensors, has the ability to alleviate costs of repair associated with mould. The monitoring has also enabled them to prevent related conditions such as cold and damp within homes.

The use of modelling enables early targeted interventions to improve public health and living environments.

By taking the modelling into consideration and providing the minimum targeted intervention necessary to minimum mould growth, the Housing Association have been able to:

- Reduce impact on the health of tenants
- Avoid unintended consequences in homes with reduced ventilation (eg energy efficient homes)
- Maintain human comfort
- Avoid unnecessary expenditure on energy
- Reduce claim costs

“Smartline is providing the hard data about people in Cornwall that is critical to allow us to make policy decisions for Cornwall.”

- **Rob Rotchell**, Cabinet Member for Adult Social Care, Cornwall Council.