THOUGHT LEADERSHIP

As the demand for more affordable social housing increases across the UK, the pressure is on for social housing associations to adapt to a dynamic, challenging landscape. Accessibility, rising maintenance costs and tenant safety are just some of the everyday challenges facing both housing associations and their tenants. And with the rollout of smart technology taking place in allied industries, the opportunity for IoT technology in social housing can be transformative, with the potential to make developments safer, more energy-efficient, and therefore cheaper to run.

Organisations are already implementing smart technology into their offices and consumers are doing the same in their homes – and social housing associations (HA) aren't far behind. There are several pilot projects and proof of concept trials being rolled out by HAs, and the initial results are encouraging. However, despite common operational challenges across the sector, not one technology solution fi ts all scenarios. This means that stakeholder education and a number of considerations need to be addressed in the planning phase before the work can begin.

Maintenance and Resource Allocation

According to Gartner, by 2020 utilities will be the largest use case of IoT endpoints, totalling 1.17 billion in 2019, and increasing 17% in 2020 to reach 1.73 billion endpoints. And the integration of smart sensors within residential properties will inevitably boost this adoption.

Smart sensors can be used to measure and gather data from a number of property management parameters including temperature, humidity, carbon dioxide levels, noise and people movement. This data can then be shared with providers who can feed it into the network, benefiting not only tenants who can control their bills through increased controls and smartphones access, but also HAs, who can use the data insights for predictive maintenance, allowing for better and more effective resource allocation. For example, sensors can identify whether humidity levels are creating an environment for damp and mould, which if left, would not only incur repair costs but also potentially cause health issues, leading to more expenses over time, such as insurance claims.

But this insight isn't just limited to tenant spaces; in common areas, IoT devices can alert to incorrect parking across emergency exits and fire lanes, bin fill levels, as well as lighting loss. In turn, this implementation enables HAs to become responsible landlords, providing overall improvements to tenants' homes as well as to the quality of their day-to-day life.

Implementation

The greater the volume of data harvested from individual properties, the more trending and predictive analysis can be undertaken, leading to enhanced accuracy and forecasting, combined with new data visualisation techniques. And deploying the IoT programme in phases will ensure that audit trails are in place to determine areas that may require adjustment.

A key consideration in the deployment of multiple IoT devices is that they are able to utilise a common communications network infrastructure to connect and deliver data to applications in the cloud. Standards in Low Power Wide Area Networks such as LoRaWAN and Narrowband IoT have now emerged globally, and are helping diverse device manufacturers to produce products that conform to these communications protocols, making large deployments easier to deploy and manage in large geographic areas. This enables large scale coverage and a holistic view across estates of devices and dwellings, some of which are in the tens of thousands per HA. If these standards and methods are followed, overheads for device management and reporting can indeed be minimised.

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Another important consideration, which can become a significant barrier to adoption within the social housing market, is cultural acceptance of 'smart' technology in the home environment. Despite the operational and cost efficiencies of IoT, for tenants, privacy is a prime concern. The idea of 24/7 monitoring can make tenants nervous, especially when it comes to the issue of data protection; which may affect their willingness to embrace, or even approve the use of these devices in their homes. This, therefore, is an area that HAs need to be mindful of and ensure they are addressing and exploring in the planning phase in order to pre-empt any tenant-requested adjustments to design, deployment, and use of data.

Conclusion

With the demand for more energy-efficient housing on the rise and the latest government green standard for new build homes already in place, the expectation for more intelligent homes is certainly increasing. In light of this, we predict that in the years to follow, IoT-based property services will be much more agile, responsive and offer a dynamic set of services that are more tailored to tenants' needs. Properties that are better managed and highly cost-efficient to run result in happier, safer tenants. Providers are actively developing more sensors with wider-ranging capability, connectivity and deployment at scale. The vision and objective for this type of technology intervention is to allow housing stock to connect seamlessly to facilities management and operations, exchange relevant data for insight and action, and deliver safer, smarter, economical and environmentally conscious social housing.

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