Factsheet: Smart tech

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Definition

Smart technology can have a very broad definition. In this factsheet we will define it as any technology within a system or building which is 'connected' and goes one step further than an average 'off and on' device. Such technology can also be referred to as the 'Internet of Things' (IoT) and can help facilitate smart building initiatives and even as far as Artificial Intelligence (AI) technologies. A common example would be a Nest thermostat which can turn a standard 'dumb' heating system into a smart system that adapts to your habits and preferences, as well as giving the option of being able to be controlled remotely through a phone app.

Why is it important?

Buildings account for around 40% of global carbon emissions, one of the largest emitting sectors. Smart tech can not only help 'tune' a building to use energy more efficiently (for example, turning off lighting and air-conditioning when areas are unoccupied), it can also bring valuable data insights into how a building is operating and being used, enabling further efficiencies. Smart tech can even help businesses increase staff productivity and help to maintain the health and wellbeing of building occupants by enabling good indoor environmental quality.

How does it affect our profession?

Many of these schemes will heavily interact with facilities management; from smart heating, ventilation and cooling (HVAC) technologies to smart lighting systems. It could also have implications for maintenance, as some smart technologies and AI have predictive maintenance capabilities, meaning that equipment can be serviced at the correct stage to prevent equipment failure.

Background and context

The UK has a legally binding commitment to reduce carbon emissions to net zero by 2050, with an interim target of 78% reduction by 2035; and decarbonising our built environment has a key role to play in this. We spend 90% of our time in buildings and more is now known about the significant influence the places we work and live have on our health and wellbeing.

The growth of smart technologies in the past few years can enable building and facilities managers to gain valuable insights into how a building is operating and being used.

Legislation, policy and standards (UK and global)

Many of these schemes will fit in with existing building standards and regulations. However, due to these devices being connected to the internet, emerging legislation and policy is being refined all the time, especially around security. A smart system is only as secure as its weakest link, therefore it is imperative that these schemes are undertaken with all due diligence.

Best practice, insight, guidance and resources

Smart buildings require forward thinking to ensure required outcomes and that data is not collected unnecessarily. Businesses need to look at the questions the other way around – what are we trying to achieve with our smart tech? Those sets of questions will then inform what data needs to be collected and which systems optimised.

Useful links:

Service Works Global: how smart technology is affecting facilities management

The Climate Group: EP100 cooling checklist

Climate Group webinar: energy productivity and worker wellbeing

Climate Group and IWFM webinar: smart tech, building efficiency and the safe return to workplaces

Climate Group event: smart buildings - how tech can enable productive, healthy and net zero buildings

UN Sustainable Development Goals

Although it doesn't feature as a standalone topic, smart technology is intrinsic to a number of the 169 targets described in the United Nations Sustainable Development Goals (UN SDGs), including:

- Goal 3: Good health and wellbeing
- Goal 9: Industry, innovation and infrastructure
- Goal 11: Sustainable cities and communities
- Goal 13: Climate Action

Governance, metrics and KPIs

This can sometimes be complicated as smart tech often links up a number of existing systems in buildings, but FMs have a crucial role to play in this. Other parties who may be involved could be IT, a sustainability manager etc.

Case study

Bloomberg: The Edge: the smartest building in the world

IWFM contacts

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