Knowledge is power

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Paul Statham outlines the potential ofsensor technology to create dynamic workplaces

Recent years have seen the so-called?internet of things? (IoT) ? the network of objects able to collect and exchange data ? gain more and more prominence. This IoT still promises somevery exciting developments, however.

There remain many untappedpossibilities for connecting devices and even ?dumb? objects; the phenomenon isonly just beginning. We are on the road to a point at which everything willhave a chip and be connected. From then on, the technology will settle in as werealise where IoT connection is most transformative.

Sensor technology, part of the IoTrevolution, is on a similar journey. Right now, it is in its infancy in termsof capacity. Nonetheless, the solutions it provides for facilities managers arefast gaining recognition.

Occupancy monitoring has become a mainstream part of real estate management

Insight

Sensor technology is now having itsbiggest impact by providing a uniquely accurate insight into officeutilisation. Occupancy monitoring has become a mainstream part of real estatemanagement after a period in which multiple technologies have attempted toprovide a solution with greater and lesser degrees of success. For instance, there has been some work in ?IP-sniffing?, that is, tracking people?s locationin a building by monitoring their laptop network connection.

Sensors themselves have had a range of applications, such as tracking footfall through different areas or sensingmovement through turnstiles. All of these technologies have been around forsome time, but have encountered problems such as unreliability and inaccuratedata, as well as ethical challenges as the boundary between measuring occupancy and analysing behaviour has been blurred.

Now, the advent of IoT and oflow-cost, wifi-enabled sensing devices has added a dimension to the existingrange of technologies being used to understand building utilisation. The impactof sensor technology is only set to increase as the ability to embed thesedevices in desks and meeting rooms is supported by ever-advancing software, which interprets the rich, accurate data these sensors are returning.

Sensors themselves have now beendeveloped to a near-optimum point: they are cheap enough to be feasibly rolledout across an office, discreet, and have a battery life of 10 years. They arecapable of collecting data second by second, down to the level of individualdesks.

This knowledge is power. Once you canunderstand working practices with this level of accuracy and know how currentoccupants are using a space, it becomes significantly easier to design forfuture occupants.

Intelligent systems

Yet the transformational potential of these sensors lies in the system to which they are linked. The potential for intelligent buildings, which can start learning how they are being used and adapt the space accordingly, relies on the power of the software in the cloud.

This software makes sense of the data,turning raw numbers into intelligent solutions. There is a long way to go, butthe IoT is certainly moving towards the state of artificial intelligence; evenwithin the next 5 years, we will be seeing sensors linked to software systemscapable of turning static buildings into dynamic workplaces.

In this way, sensors can feed into the connected office, with all the possibilities this presents. Occupancy sensors provide data that can be accessed by users at multiple interfaces. They can see in real time whether a meeting room or desk is being used from screens around the building or their mobile phone.

The sensors can even enter intodialogue with individual employees, alerting them to a free desk or enquiringwhether they intend to return to a vacated desk that day. The future of sensortechnology is not all about big data: once the office is connected, the liveinsights become important, enabling better navigation of the workspace by itsusers on a day-to-day basis.

As trends for flexible workingcontinue, the workplace is becoming more rather than less complicated for theindividual employee. Sensor technology is increasingly capable of simplifyingtheir experience and will continue to make buildings more responsive to theiroccupants.

Privacy

The only limit to what thesetechnologies can achieve depends on how far we consider them an invasion ofprivacy. The ethical standards with which facilities management professionals workare very clear. For property managers, the chief and indeed only concern shouldbe the performance of the building.

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Facilities managers are not HRprofessionals, and their ethical framework depends on this distinction. Theline between measuring utilisation of workspace and monitoring

people?sbehaviour is one that must be clearly emphasised and strictly maintained. Sensortechnology enables this distinction by collecting data in which individual usersremain anonymous.

In order to progress sensortechnology, property professionals responsible for implementing it must ensure that this distinction is properly understood.

Facilities management professionalsneed the soft skills to communicate clearly that, while monitoring a desk, employers are not monitoring behaviour. The reason that sensor technology isinstalled in a building is to make the workplace responsive to the increasinglyflexible working habits of employees.

Individuals are to a very large extentin favour of the connected office and the benefits it brings, and for this reason they tend to respond positively to effective communication aboutsensors. The ability to communicate this message well is crucial to the successof sensor technology.

Future skills

Since sensor technology is designed tobe as intuitive as possible, the technological skills demanded of property professionalsare limited. Most make use of consultants and vendors who provide experttechnical support and data analytics. While a basic awareness of data analyticshelps the process of implementing sensor insight, the most important characteristic for these professionals is the recognition that user experienceis central to their role. Sensor technology is not about building the most efficientoffice, but about a creating a workspace that operates in the style that usersneed. In efforts to create a building that can adapt to people?s use of it, sensor technology is not optional but fundamental.

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Further information

- <u>RICSFutures project</u>
- Related competencies include <u>Corporatereal estate management</u>, <u>Facilitiesmanagement</u>
- This feature is takenfrom the RICS *Property* journal(May/June 2016)