

# The Internet of Access Control

Internet of Things (IoT) technology has the potential to transform the way that Facilities Managers (FMs) manage buildings. It opens up a plethora of new choices for managing building services such as HVAC, lighting and, more recently, access control.

But as Grant Macdonald, Managing Director of Codelocks, explains, FMs must be equipped to properly assess and adopt these new technology choices if they are to realise the potential benefits.

According to market analysts Navigor Research, the global market for building automation systems (BAS) is set for strong growth over the next few years. This is being led by early adopters reaping the benefits of better building control – especially around energy management – improving comfort and convenience for occupants, reducing energy costs and ensuring compliance with new energy codes.

Importantly, Navigor identifies another key driver for smart building: the integration of smartphones into many human interactions within the world around us. It is driving our expectations of the built environment.

For access control applications within buildings, we can identify similar market drivers to energy management. There is an imperative for FMs to reduce costs, and for access control it is often the case it also to manage or replace keys, or change access codes that contribute most to the cost burden. With new EU Data Protection Regulations coming into force during 2018, many businesses will review their compliance by looking at how they control and audit access to information that is held physically within office buildings. The latest connected digital locks offer more convenience for end users by supporting access via smartphones alongside keypad and card entry, which resonates with the shift in users' expectations.

Despite all the benefits of smart building technology solutions, FMs still face a number of challenges in implementing solutions that will work well for them. With so much choice available, FMs need to spend more of their time researching new products and understanding what, if any, will provide the best return on investment while meeting their budget constraints. Furthermore, retrofit applications need to work with their current systems and address the specific requirements of their buildings and people.

## What today's FMs need from access control

Implementing access control in the modern workplace is a balancing act between maintaining ease of movement around a building while controlling the levels of access

for individuals and groups of employees.

By integrating wireless technology within an electronic digital lock, you can now offer ultimate end-user convenience while minimising the time they have to spend managing their locks. Wireless 'smart' locks offer features that far exceed those offered by traditional mechanical or standalone electronic locks. As well as supporting more flexible user modes, they are simpler and cheaper to install than traditional and expensive wired card-access systems.

With smart locks, you can provide users with the access method that best suits their needs, whether that's using a card, invited smartphone or single keypad code access. For other users, such as service personnel, FMs can easily issue a time-sensitive code to allow temporary access. Other advanced features, such as code-free entry, ensure that FMs can quickly and easily set locks to the most appropriate level of access.

In the past, one of the biggest challenges for FMs is the time that they had to spend managing and changing access codes on keypad locks. Changing the keypad codes regularly is good practice and helps to ensure the integrity of access throughout a building. While changing the code on a mechanical lock is fairly laborious – you have to remove the lock from the door, electronic locks help to ease this problem by enabling FMs to download new codes from a PC. Wireless control takes this level of convenience a step further by allowing codes to be reprogrammed from an authorised smartphone.

Having an audit trail facility helps you to monitor and track employee, visitor and service staff movement. With wireless smart locks, FMs can now access this information more easily than ever through a smartphone app.

## Easing adoption

FMs can make their lives easier when evaluating and implementing new IoT-based building services by working with solution providers, as opposed to simply purchasing products. A solution provider will be able to offer a full package including specifications and technical advice about when and when to deploy different products, ensuring that both



Grant Macdonald

needs and budget are met.

As the technology within products becomes more sophisticated, without proper training and after-sales support you may not get the most out of your investment in the new technology, leaving potentially useful features unused. A good support team will suggest how to get the best out of the technology based on your specific application and may be able to offer customised software to exactly meet your needs.

A key concern that FMs raise when considering wireless lock technology is security from hacking. You should ensure that the technology you invest in has the appropriate levels of authentication and encryption built-in to the hardware, software app and infrastructure (for example, the vendor's servers) to reduce the risks from hackers.

## Summary

Smart digital locks are the latest IoT-based innovation that can help make FMs' working lives easier. Deployed in the right applications, smart wireless digital locks will help FMs to implement better access control within their buildings while significantly reducing the burden on their time for ongoing management tasks.

Combining smart technology with wireless access alongside traditional keypad and card access options will add to standalone locks' ability to take as new greater share of the access control market. Increased levels of convenience and control will also lead to their specification in new market areas, such as home rental and home care service applications.

# Building Better with BIM

The digital age is evolving. We are constantly adapting technology in order to enhance all aspects of the modern world. We have changed the way we socialise, the way we travel and the way we work in order to integrate the latest technology in our everyday lives.

Building Information Modelling (BIM) is at the front and centre of the latest digital technology in today's built environment. There is now almost a universal recognition of BIM within the construction industry, as well as widespread private sector investment in the implementation of BIM.

So why is BIM so crucial to transforming the industry?

Steve Thompson, MD of EOS Facades, specialises in the design, manufacture and supply of a wide range of wall sections for pendant or volumetric office solutions. He shares his views on the positive impact that BIM will have on today's construction industry.

In terms of procurement, BIM is a powerful tool that allows construction companies to quantify the requirements of their projects. This enables control of spending and time management, resulting in the reduction of waste in these areas. It is essential that BIM is used in the early design stages of a project to ensure that there is capacity to not only clearly identify the elements of the project but through the use of BIM, companies are able to anticipate when they need to procure any given material or element. It is extremely difficult to manage the appropriate knowledge across all construction partners at the same time without the use of BIM, this can lead to the best producing the wrong materials at the wrong time in different volumes.

In 2011 the government committed to the use of Level 2 collaborative 3D BIM on all centrally-procured government projects by this year. This is strategically planned as part of a larger overall strategy to combine the use of BIM with the latest modern technology, leading to the collaboration of the government and construction industry working to enhance skills and reduce the cost of infrastructure. The aim of this strategy is ultimately to position digitally enhanced construction as a prerequisite across the UK construction industry.

There has been scepticism, however, from some parts of the industry over the government's BIM strategy. There seems to be a strong theme of companies claiming that there is a crucial lack of training in this area and that it is too costly and time consuming to invest in, particularly for SMEs.

Despite these claims the overall acceptance that BIM has gained still seems particularly prominent. From my experience, the general consensus from our industry implies that the growing integration of BIM will have a positive effect with only a small percentage of construction companies stating that they will not be using the technology. More money is now being invested in BIM, with large jobs kicking off this year applying the use of BIM in more sophisticated ways than ever before.

I feel that the government's



Steve Thompson, MD of EOS

implementation of BIM Level 2 will have a positive effect on our industry by bringing about progressive changes to the way that we work. Through the execution of this strategy, it is predicted that BIM will bring many employment opportunities, particularly for niche software developers and office manufacturers, as well as upskilling current employees within our industry. By creating critical mass and certainty of demand, businesses should feel confident when investing in the development of BIM within their companies.

BIM is a key enabler for integrating office technology into construction practices – this is something crucial within government projects as there is an acute need for more efficient construction, as well as a vital responsibility for our industry and government to reduce our carbon footprint through the application of low energy buildings – resulting in lower costs for the end user.

BIM helps to provide the platform for teams to integrate and work together, as well as delivering valuable information to confirm that the finished project will meet performance expectations. It is the ideal tool for conducting the whole life cycle analysis of a project – embracing new technology and a new culture of working. This is something that I feel the industry would benefit greatly from and would help to deliver projects with heightened quality through efficiency of communications and accuracy of planning and design. I am eager to see the industry take this advanced method of construction to the next level!

