



# Article

## Smart buildings: A fast growing market

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Today's buildings have a lot more sensors and much more data is being collected than before – the buildings are “smart”. Access control, identity management and video surveillance play a big role in these smart buildings.

“If you want to analyse your facility usage, occupancy, trending at certain doors, how to organise your security staff, which locations of the building might need more attention from maintenance – access control definitely has a role, says John Szczygiel, Executive Vice President and Chief Operating Officer at Brivo.

By Henrik Söderlund

According to Marketandmarkets, the global IoT smart building market will approach 51.44 billion dollars by 2023 and smart building automation systems will grow at a 48.3 percent CAGR to 2023. North America is leading the IoT smart building market with around one third of the total sales. Building management system platforms can aggregate big amounts of data from different equipment and applications and manage these via a single platform.

#### Harvesting useful data

David Sullivan, President of Vanderbilt International, stresses that access control can contribute to smart buildings in many ways. He says: “You can manage identity and you can start to determine when somebody is behaving differently and be able to utilise that data within your smart building application.”

An example of that is that you can see where that person is going (with surveillance cameras and VMS) and track him or her throughout the building. You might also want to see some of the things he or she is doing with the other systems: is there an unusual behaviour or not?

David Sullivan says: “Whatever that case may be, you can take that data and be able to incorporate it into the other systems.”

John Szczygiel, Executive Vice President and Chief Operating Officer at Brivo, also believes access control has a big role in smart buildings. He says: “Because it can

be used to harvest information and help and respond to events, so when something happens in a building, and there needs to be an evacuation, access control obviously plays a role.”

#### Cyber security is an issue

Last year, IHS claimed that electronic access control systems are the leading type of security system being integrated into building management system platforms. And already in 2017, almost 30 percent of access control equipment shipments – including readers, door controllers and

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electronic locks – were installed and connected to a BMS platform, according to IHS.

The access control systems can provide high quality information to the BMS platform, such as who is in the building, where they are and how they move through the building. IHS also stresses that access control systems and identity management platforms provide the starting command that lists the tasks that users must accomplish once a specific person has entered the building, therefore, they are key.

The market for IoT in buildings is expected to almost double from 2017 to 2021. With so many connected devices and systems comes increased vulnerability and a



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robust building cyber security plan is critical.

#### Integration to building management

Pierre-Antoine Larrera de Morel, Sales Director at Stid Group, stresses that access control in smart buildings have become a necessity and that there is a trend where many companies are building mobile applications for users, managing smart buildings. Access control is integrated as part of the building management. He says: “That is why we provide mobile credentials to be integrated to existing build-

ing management applications. It is very important to bring that flexibility and to bring all the security of the traditional access control into the mobile applications for intelligent buildings.”

Håkan Johansson, Sales Director for Northern Europe at Axis Communications, stresses the convenience that comes with smart buildings where security solutions and other solutions can work together. He says: “Let us say your company is going to have an expected visitor, you can read the license plate when the visitor gets into the car park, and then you know he or she has arrived. Then you can make sure that you print the visitor badge and that the person which the visitor is going

to meet is already aware that the visitor has arrived.”

Of course, these kinds of solutions can be applied in a residential building as well.

Mobotix CEO Thomas Lausten considers access control to have been an embedded part of smart buildings for a few years. In the future, he thinks that access control will continue to have an impact on smart buildings like it has today, but it will be even smarter. He says: “Access control systems are moving from the classical approach and we will see integration with deep learning and also with cyber security. Because this is not only about video surveillance, it is also about who can access buildings, and here we see a strong focus and also integration possibilities.”

#### Security in smart buildings

Baudouin Genouille, Suprema's Business Development Director for EMEA, thinks that video surveillance might be even more important than access control when it comes to smart buildings, but that access control gives very good information on who a person is. He also stresses white listing and black listing as two important means. White listing can be carried through by biometrics or access control: a person's identity is confirmed and since he or she is approved and “on the list” that person can be granted access. Black listing on the other hand, is more about video surveillance, Baudouin Genouille argues, and is based on the idea that there is →

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→ some kind of database with individuals that are not allowed to be granted access and if an individual is identified by the video surveillance system he or she can be tracked.

### Everything starts with identity

Freddie Parman, CEO for Seriline, stresses that smart building management starts with who is entering the building. Therefore, identification is very important. Also, it is likely that there will be different authorisation levels in a smart building. Genetec CEO Pierre Racz says: "All parts of

a smart building can provide information that are used as inputs to the automated or semi-automated workflow. In particular changing the authorisation levels when people in the workflow have to do certain tasks."

For example, an employee might have to enter the building in person before being able to place an order, but not be able to do that from home or from another country.

### Saving energy – and money

Operational efficiency is another key word for smart buildings. Why should lights be on in an

empty room or area of a building? Here, John Szczygiel from Brivo again highlights the role of access control in smart buildings. He says: "If you want to analyse facility usage, occupancy, trending at certain doors, how to organise your security staff, which locations of the building might need more attention from maintenance and things like that – access control definitely has a role in that smart building."

However, video surveillance also has an important role in smart buildings. Shengfu, Vivotek's Director of Marketing and Product planning, points out that a camera

can count people, and for example with a fisheye camera, you can look at heatmaps and track every individual movement. He says: "With fisheye cameras, we can know how many people there are in a building, or where the people are dwelling and staying. Based on this, we can control the air conditioning, even the light and ventilation, and so reducing the electricity consumption and saving power."

With cameras that provide an open platform, it is fairly easy to implement new apps that run onboard the camera to supply that added value for building management.

### Panel of experts:



Aurélie Boyer, UTC Fire & Security.



David Sullivan, Vanderbilts International.



Pierre-Antoine Larrera de Morel, Stid Group.



John Szczygiel, Brivo.



Freddie Parman, Seriline.



Håkan Johansson, Axis Communications.



Baudouin Genouville, Suprema.