A Specifier's Guide

to Access Control for Commercial Office Buildings

ASSA ABLOY
Opening Solutions

INTRODUCTION

Technological advancements have vastly impacted society, changing our needs and expectations for security. Protecting employees, valuable assets and your business space is the minimum requirement. It is crucial to be able to improve the overall experience of building occupants, intelligently capture and manage building usage for owners, and guarantee a dependable, and seamless experience for all users.

All market segments are being pushed to adopt "smart" access control systems for increased security and accountability in their businesses as a result of challenges encountered during the COVID-19 pandemic, hybrid working styles, and ever-increasing security threats. Newer credential technology is becoming more prevalent, particularly with mobile access, to provide a more intuitive employee experience (as opposed to managing physical access cards or keys). Wireless, cloud-based solutions are also becoming the standard, providing flexibility and scalability to businesses looking to remain agile in uncertain times.

Recent survey results highlight these emerging trends. In the 2022 State of Physical Access Control Report, which surveyed professionals from across a range of industries worldwide, it was found that more than four in ten businesses are planning to adopt a mobile-ready contactless access control solution (42%) while just under one in four have already upgraded to a mobile-ready system (24%).[1] Additionally, it was reported that 20% of respondents chose contactless technology and 18% chose mobile access as the one technology they believed would "have the greatest impact on improving physical access control."[2]

Against this backdrop, we take a look at current trends and technologies that are defining modern access control systems, and discuss the key considerations for choosing the right system for a commercial office building.


SMARTair

Fundamentals of Access Control

BASIC COMPONENTS

Systems used for access control range greatly in complexity and type. However, the majority of card access control systems have the following fundamental parts:

- **Card readers.** To enable people entrance to the building or area, a card reader must be positioned next to the required doors. While most card readers operate on proximity with the credential, a number of card readers now also incorporate NFC and BLE technologies for mobile app integration.
- **Keypads.** You can install keypads in place of card readers or alongside them.
- **Access cards.** Keys in the system are replaced by access cards that are individually coded for each user.
- **Biometric credentials.** You can issue credentials using the user's fingerprint or retina scan in addition to assigning them using physical credentials (such key FOBs or cards).
- **Electric locks.** These locking systems are put in place on exterior and interior doors where access needs to be limited or managed. Replacement of keys or the inclusion of extra automation capabilities, such as remote locking and unlocking, are both made possible with electronic door locks.
- **Doors.** Doors come in a variety of sizes, depths, and materials to meet your sector and security demands. Monitored doors can be connected to the access control system for monitoring and integration with other functions such as alarm systems and lighting.
- **Control panels.** Control panels' primary function is to unlock the door when the proper key code, card, or other credential verification is received. It functions as a central location for organising your user credentials.
- **Servers.** Computers are used to programme access control systems and provide the central database and file manager for the access control system.

A fully integrated business security solution goes far beyond simple entry systems like card readers, keypads, or biometric readers. Modern access control systems can work in tandem with a business' other security and monitoring tools to expand security.

TYPES OF ACCESS CONTROL CREDENTIALS

Typically, credentials are grouped into one of four categories: something unique that you have, something you do, something you know, or any combination of these (multi-factor). Below are some of the most common types of access control credentials:

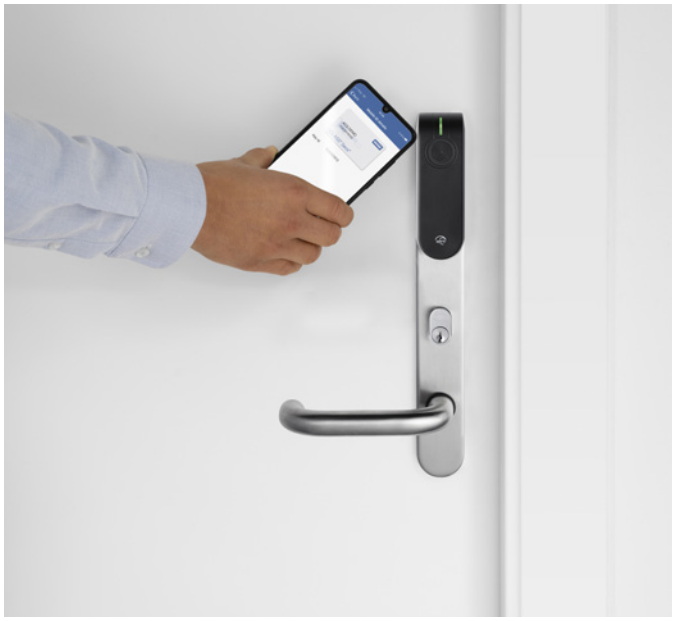
- **Key fob or access card.** A physical card that is uniquely encoded to grant and restrict access. The phrase "access card" can be used to refer to several types of cards including magnetic-stripe cards, proximity cards, smart cards, RFID cards, and key cards.
- **Biometrics.** Although biometric scanners have advanced significantly and can now provide a high level of security, they still require the proper installation and operating environment in order to function properly.
- **Password or pin code.** Assigned to the user, who then inputs it into the keypad on a door to authenticate and gain access to a space. These types of credentials can be cumbersome to maintain and are easily shared to unauthorised users.
- **Mobile credentials.** Approved users download an app to their phones and then are sent a credential which is embedded in a mobile app to enter the office in the same way they would use a key card.

Mobile credentials, which is the fastest-growing credential type, offers a lot of advantages to commercial organisations. Technology-supported methods allow administrators to grant access to staff members quickly without having to be physically on site to hand them physical keys or cards. When an employee leaves, the administrator can immediately disable their access without any risk. Integration with the user's smart phone also enables unique features, such as rapid lockdown modes.

FEATURES AND INTEGRATION

A fully integrated business security solution goes far beyond simple entry systems like card readers, keypads, or biometric readers. Modern access control systems can work in tandem with a business' other security and monitoring tools to expand security. For instance, video intercoms can be installed at access control points to add a visual component to visitor screening.

Building management systems (BMS) are used in smart buildings to manage, monitor and automate functions like lighting, security, ventilation, and heating. In order to save money and the environment and improve occupant comfort, you can integrate the access control system with the BMS to alter resources like lighting, air conditioning, and heat in office spaces based on traffic patterns and occupancy.



Wired vs. wireless

The two primary options for electronic access control systems are wired and wireless. The more traditional option of the two, wired access control systems use hardware that physically connects to the control equipment with a central control hub. These hardwired access devices are typically very dependable and secure, and also have the advantage of being directly connected to the building's power source rather than being battery-powered.

The cost of installation is the main flaw of wired systems. An infrastructure like this may not be practical or cost-effective for smaller businesses to set up, especially for older buildings which require additional wiring to be installed. It is also more expensive to scale up and the number of doors you can add will be constrained.

For most commercial organisations, wireless access systems are the smart choice. Wireless installation is less obtrusive and significantly faster and cheaper than wired systems. The latest generation of wireless locks can replace standard mechanical locks quite easily and integrate seamlessly with almost any access system. Manufacturers are collaborating with top Internet of Things (IoT) technology and security providers to enhance overall reliability. Battery life has also improved, with some manufacturers offering batteries that last for approximately two years.

Cloud-based vs. on-site access control

Every access control system runs on data, and conventional on-site access control systems demand the installation of servers and software to manage it all. In addition to providing a higher level of security, this method enables businesses to maintain total control over their data and avoid relying completely on internet connectivity. The disadvantage is that on-site systems are much more challenging to scale and have higher upfront installation costs.

An access control system that is cloud-based offers centralised management, visibility, and control without the expense and complexity of conventional physical access systems. With cloud-based access control, data is managed off-site by a service provider. Through online and mobile portals, users may access their systems, enjoying the advantages of enterprise security without the continual headaches associated with on-site server upkeep.

Today's cloud-based access control systems offer great levels of flexibility and scalability. The acquisition of servers and access control components together are not expensive, which increases scalability and flexibility, especially with wireless access control systems. Additionally, unlike legacy on-site systems, the number of doors and users you can add to the system is not constrained.

Door types and usage

For each opening requiring access control, you will need to understand specific details to ensure you choose the right product for the given application. The door type will determine the type of electromechanical or electromagnetic lock that can be used. For example, a specific lock must be fitted on double swing doors, sliding doors, and glass doors. To guarantee the integrity of the door, security, longevity, and intended usage, the type of lock selected must be appropriate for the door type and its application.

How each door will be used is also an important consideration. This includes the amount of traffic through the door, any possible accessibility (DDA) requirements, fire or emergency exit paths, and also auto doors and gates. Some of these requirements, particularly those relating to fire exit doors, call for particular lock configurations, such as fail-safe operation, free handle egress, and perhaps the addition of other devices, like emergency door release buttons, to guarantee safe egress from a space or building in the event of an emergency.

Choosing your ideal system

Commercial offices require trustworthy means to safeguard company assets, whether they are for a single location or multi-site operations. This could entail implementing office rules for who has access to what or creating credentials to let guests into the premises. Understanding security requirements is essential if you want to keep your facilities and assets secure. Below are some pertinent considerations:

- How many access points are there into your business?
- How many people will you give credentials to? How complicated are their levels of access?
- What types of assets are being protected?
- Who will manage your access control system? Will it be someone inhouse or a managed service provider?
- Will your system integrate with other security technology such as cameras, alarms, smoke detectors or time and attendance systems?
- What type of reporting do you need? What types of data do you need stored?
- What regulatory requirements do you need to meet?
- What is your budget?

ASSA ABLOY OPENING SOLUTIONS

Trusted Solutions for the Commercial Office Sector

The ASSA ABLOY Group is the global leader in access solutions. Every day, the company helps billions of people experience a more open world. ASSA ABLOY Opening Solutions leads the development within door openings and products for access solutions in homes, businesses and institutions. Their offering includes doors, door and window hardware, mechanical and smart locks, access control and service.

Key Benefits

- Complete end-top-end solutions for access control
- Cloud-based systems
- Dominance in high level integration market
- Non-proprietary system with seamless integration with all leading 3rd party technology
- Global partners
- Market-leading warranties
- Comprehensive training, technical support and expertise
- Track record and pedigree of delivering successful projects outcomes
- Market-leading products and brand

SMARTair™

SMARTair™ by ASSA ABLOY is a powerful access control system that offers an intelligent, yet simple, step up from keys. SMARTair™ is easily incorporated into existing systems and buildings, with multiple management solutions (Standalone, Update on Card and Wireless Online) that are easy to install, configure, administer and maintain.

There are SMARTair™ locks and other devices to secure just about any opening, in all kinds of buildings. ASSA ABLOY offers escutcheons and cylinders that fit any interior and exterior doors. Wall readers control access to lifts, high-traffic entrance doors, and car parks. Cabinet locks ensure documents or medicines are safe, and are fully monitored within the main access control platform.

SMARTair™ also gives users a choice of credentials, so they can open doors securely with a fob or mobile phone, as well as a standard electronic key-card.

Incedo Business (Lite/Cloud/Plus)

Easily expandable and endlessly scalable, ASSA ABLOY's Incedo systems have been designed to provide the usability, flexibility and updatability demanded in today's always-on world.

The Incedo-enabled hardware range of wireless locks and wall readers is compatible with mobile keys. Mobile keys are sent over the air to user smartphones, removing the manually manage physical key cards. Facility managers save time previously wasted in credential handover and are not required to be on-site.

The Incedo Business platform launches with three unique system management options — Lite, Plus and Cloud — designed to give every customer a scalable solution focused on their security needs. Whatever size or type of premises you want to secure, Incedo Business has a flexible system management option to suit you.

Aperio

Aperio wireless devices are the easiest way to extend the reach of your access control system, or to replace your mechanical locks with intelligent access control. Because they operate wire-free, battery-powered Aperio devices are fast and cost-effective to install and save you money in operating and maintenance costs.

The Aperio product range includes battery-powered cylinders, escutcheons and complete locks for security doors. The award-winning Aperio handle fits powerful access control functionality into a slimline door handle. Because Aperio is built using open architecture, seamless integration enables control of any existing hard-wired doors and Aperio battery-powered devices from the same access control interface.

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References

1 Phillips, Tom. “Survey finds four in ten businesses are planning to upgrade to a mobile-ready contactless access control solution.” NFCW. https://www.nfcw.com/2022/08/02/378352/survey-finds-four-in-ten-businesses-are-planning-to-upgrade-to-a-mobile-ready-contactless-access-control-solution (accessed 20 November 2022).

2 Ibid.

All information provided correct as of November 2022.

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