

# Modernizing facilities management

**ASSA ABLOY**  
Opening Solutions

White paper:

A unified, practical approach to security, access control, health and safety

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and more open world





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# Introduction: the future of facilities management?

Effective facilities management (FM) is vital to any organization. Not only does it contribute to delivering strategic objectives, it also ensures a safe and efficient working environment — the key to any successful business, no matter the size or scope of its operations.

Tasked with ensuring buildings and services meet the needs of those who operate in these environments, the facilities manager's role has developed significantly over the last decade. Health, safety, access control and security throughout a site are all part of the brief. In today's FM market, the need for enhanced security and access control measures in both the public and private sector is a top priority. Yet as delivering assured security increasingly becomes almost "a given", measures must also offer a variety

of value-added benefits: greater convenience, improved cost efficiency and a buffet of valuable business insights or data points.

The latest technologies — from IoT-connected devices to automated auditing and reporting systems — are enabling the FM market to become smarter, leaner and more effective. This is improving operational efficiency: Delivering assured health and safety to employees and visitors, while still meeting fundamental security and access control requirements.

The following white paper will discuss the challenges FM faces at large and multiple site organizations. It will then consider the major criteria for assessing competing access control systems and technologies, before examining available solutions.



# A question of health & safety

## 1. How businesses and their security teams benefit

Almost everywhere they operate, organizations have a duty of care and a responsibility to protect the people who work for or visit them. Furthermore, multiple transnational regulations — including EU directives, guidelines and standards<sup>1</sup> — place an obligation on employers to ensure, so far as practicable, everyone's health, safety and welfare at work.

Yet many premises have areas which are out of bounds and off-limits to the public for valid reasons, but which certain members of staff must be able to access.

For the FM practitioner, trying to control key management and ensure only selected individuals access these areas can be difficult. There is pressure to balance the need for easy access to areas where everyone is permitted, alongside areas where only

certain employees should be able to access — based on training, experience or authority. It needs to be carefully managed, on an ongoing basis. Many facilities also need to operate 24 hours a day, seven days a week. As a result, ensuring continual access to a site, so that the health and safety needs of staff and visitors can be met at all times, is another important consideration.

These problems can be overcome, however, with the right access control solution and flexible system management.

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<sup>1</sup> <https://osha.europa.eu/en/safety-and-health-legislation>





# A question of health & safety

## 2. Health, safety and peace of mind

Modern access control solutions ensure each member of staff has a single credential to enable access to all the areas they need, and whose permissions can be altered at any given moment. These then provide a full audit trail of who has accessed a particular area at any given time, meaning access rights are monitored and managed effectively, allowing total visibility. Section 5 covers some criteria for assessing mechanical, electromechanical and electronic access control solutions.

Importantly, an access system also protects staff and members of the public from a health and safety perspective: It guarantees areas which might be deemed dangerous or unsuitable are secured and demonstrates transparently that every step has been taken to minimize risk.

Not only does this reduce any opportunity for unwanted or unqualified individuals to enter restricted areas; it also helps legally cover a facility should an incident occur. The business is thereby protected from unexpected and unwanted legal costs.

Such security measures also act as a powerful deterrent against theft or unauthorized entry to properties — another key benefit of an effective, modern access control system.



# Access problems

## 1. Finding one solution for multiple needs

Service and maintenance teams typically rely on one set of keys for each pre-defined area of a site. Most facilities managers know this is impractical and inevitably creates in delays: Teams must liaise and pass keys between one another. It is time-consuming and can cost businesses considerable expense.

Nowadays, it is widely acknowledged that the chance of losing a traditional mechanical key is significant — and can easily happen to the best of us. Plus, large numbers of personnel and high staff turnover rates can also result in the unauthorized copying of keys. These are then quickly distributed to others who were never intended to have access to specific areas. Replacing lock cylinders and the associated keys, as well as all the accompanying administrative work, is time- and labour intensive.

Once again, this costs organizations money. Sustainability is another critical issue. Organizations are keen to reduce their carbon footprint and control CO2 emissions wherever possible. Incentivized by local legislation across EMEA, as well as international accords including the Paris Agreement<sup>2</sup> — and in line with ambitious CSR strategies — businesses seek solutions which contribute towards their sustainability efforts. The facilities manager — and the FM market — must respond to this fast-growing demand.

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<sup>2</sup> <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>





# Access problems

## 2. Creating a competitive advantage with access control

The latest access control technology enables organizations to grant keyholders — regardless of their location — remote access to properties or facilities. This saves both time and money when administering key control. Should a key be lost, its access can be revoked, removing the opportunity for copied keys to unlock doors.

Each employee may carry their own key, too, uniquely configured to provide access only to the areas they require. There is no need for anyone to waste time waiting for keys to be swapped or exchanged between members of staff.

An effective access control system can also help cut energy bills and reduce an organization's environmental impact. For facilities managers seeking a solution which helps reduce their carbon footprint, systems which have been certified with

an Environmental Product Declaration (EPD) are recommended.

As a “whole life-cycle assessment”, an EPD provides a standardized means of quantifying the environmental impact of a product or system. Created and verified in accordance with ISO 14025<sup>3</sup>, an EPD offers an overview of a product or system's footprint.

EPDs empower organizations to make decisions on whether a solution meets the necessary sustainability requirements for a company to achieve its goals.

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<sup>3</sup> [www.iso.org/standard/38131.html](http://www.iso.org/standard/38131.html)



# Security threats

## 1. Identifying potential threats

Ensuring effective security measures are in place is a top priority for every facilities manager. Premises without such measures are susceptible to a range of intruders, vandals and others who wish to cause damage or harm.

Among the most persistent security risks faced by facilities managers are:

### **Burglary**

According to the 2018 England and Wales Commercial Victimization Survey, approximately 11% of wholesale and retail premises experienced a burglary or attempted burglary in 2018<sup>4</sup>.

Pan-European property group Camelot Europe estimates almost 220,000 annual burglaries or acts of vandalism against property in France<sup>5</sup>. Potential

losses can be large, especially in locations such as hospitals, schools, offices, warehouses and public buildings where valuable equipment is kept

### **Arson**

Fire presents an existential threat to all types of premises, almost everywhere, and with potentially catastrophic losses. In the UK, for example, leading insurer Aviva Group estimates that £2 billion worth of damage is done to property through vandalism and arson<sup>6</sup>.

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4 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/829399/crime-against-businesses-2018-hosb1719.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/829399/crime-against-businesses-2018-hosb1719.pdf)

5 <https://fr.cameloteurope.com/sites/default/files/Camelot-19-FR-brochure-protection%20par%20occupation.pdf?dwp=1>

6 <https://businessnewswales.com/empty-buildings-deserves-more-attention-in-the-housing-market/>





# Security threats

## 1. Identifying potential threats

Germany has lost at least 70 historic buildings to fire in the last two decades<sup>7</sup>. Around 4,000 arsons are reported to Belgian police every year<sup>8</sup>. Fire can be one, serious consequence of unauthorized intrusion — or just an accident caused by inappropriate access.

### Squatting

Squatting of temporarily empty properties is a daily risk for property managers. In Spain, for example, the number of squatted premises in 2017 was around 90,000, the vast majority of which were owned by financial institutions<sup>9</sup>. The cost and time spent trying to regain possession of a site and to repair damage can be significant.

### Trespassing

While on its own this may appear more trivial, *any* unauthorized entry to a site has the potential to cause problems. Trespass is the first step towards all three damaging consequences listed above. Trespass may also create an impression of insecurity among staff and visitors. When it persists, subsequent reputational damage can affect long term business goals including recruitment and employee retention

Any of the four above can have serious repercussions for a business or public organization, notably with regards to cost and time.

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<sup>7</sup> <https://apnews.com/article/fires-spain-ap-top-news-france-paris-9d791857100b4eabb9f63a32a1c4cdaf>

<sup>8</sup> [www.statista.com/statistics/535361/arson-cases-in-belgium/](http://www.statista.com/statistics/535361/arson-cases-in-belgium/)

<sup>9</sup> [www.expansion.com/empresas/banca/2017/04/16/58f3af7f268e3ebc4f8b459b.html](http://www.expansion.com/empresas/banca/2017/04/16/58f3af7f268e3ebc4f8b459b.html)

A close-up photograph of a hand holding a key, about to insert it into a silver door handle. The hand is wearing a ring. The door is dark-colored.

# Security threats

## 2. Minimizing risk

A proven, trusted and reliable access control solution is essential to ensuring a site is secure and protected against these threats (and others).


Having a system in place not only acts as a deterrent, but also stops intruders from damaging a facility in the first place. Entering a site without authorization must be made difficult.

The latest electronic access control technology neutralizes any threat from lost or compromised keys. At the same time, it eliminates downtime and costs associated with their replacement.

Selecting the right, proven access control technology should not be underestimated. To ensure the safety and security of a site, facilities managers must undertake a thorough review of the proposed system's credentials and industry

reputation. Consult a reputable supplier for examples of how any shortlisted solution has helped secure similar sites.





# Criteria for electronic, electromechanical & mechanical systems

Flexibility in issuing and managing access authorizations is a major reason why electronic or electromechanical locking systems are often preferred to mechanical solutions. In this type of lock, the mechanical release of the cylinder is replaced or supplemented by an electronic or mechatronic operation.

Instead of mechanical keys, facilities management teams may deploy smart cards, tags, programmable electronic keys or even the smartphone. As a result, operational processes and organizational changes can be implemented more quickly.

Criteria for selection and planning of the appropriate locking system depends on the individual requirements of a buyer, who may wish to consider specification issues in a number of interconnected areas within the remit of physical and IT security, and FM more generally.

## Factors in favour of an electronic system

- ✓ Fast assignment and withdrawal of access authorizations
- ✓ Timely blocking of lost, stolen or otherwise missing keys
- ✓ Higher tamper resistance of devices to any opening
- ✓ Time-limited assignment of access and regular revalidation
- ✓ Potential for longer life because key loss has less impact

# Criteria for electronic, electromechanical & mechanical systems

## 1. Cylinder requirements

- How easy are the cylinders to assemble?
- What mechanical security is required of the cylinders (e.g. anti-drilling or anti-pulling protection)?
- Which cylinder types are required for the doors to be converted (e.g. double cylinder, half-cylinder, padlock, round cylinder, lever cylinder, mailbox / safe cylinder)?
- What cylinder lengths are required?
- Can protruding cylinder knobs or bulges hinder use of the locking system (e.g. shearing off knobs, vandalism)?
- Battery issues: How long is typical battery life? How much work and logistics are involved in changing the battery?
- Are the cylinders spatially distributed at many locations and how does this affect maintenance costs?






# Criteria for electronic, electromechanical & mechanical systems

## 2. Software requirements

- Is local software or multi-site software required?
- How high is the accessibility and the service level?
- How is the software UX (user experience) and interface design?
- Does the manufacturer regularly update software to current operating system versions?
- Are regulatory requirements for data protection being met?
- How good is data encryption between cylinder and digital credential?
- Are service level agreements required and offered and if so, do they meet your operational needs?
- Is there local language support?
- What are the requirements for networking the cylinders? (see below)



A man with dark hair, wearing a dark suit jacket over a light blue button-down shirt, is looking down at a white smartphone he is holding in his hands. The background is blurred, suggesting an outdoor setting.

# Criteria for electronic, electromechanical & mechanical systems

## 3. Networking requirements

Depending on your organization, chosen solution and purpose, different methods for validating, changing and deleting access authorizations will apply.

### **Offline systems**


Offline systems consist of individual locking components which are not connected and therefore cannot all be changed from a central point. In these systems, access authorization changes must be made directly at the cylinder, via programming devices or programming keys which administrative staff carry to the cylinder. Alternatively, a keyholder must visit the admin point in person.

However, at places where access authorizations change frequently and/or large systems where cylinders are spread out, offline management becomes more difficult.

### **Update on Card / Update on Key systems**

Update-on-Card (Key) systems enable management of locking authorizations or lockout commands without wiring individual cylinders. For this purpose, wall programming devices at one or more points around the building enable users to change their access rights independently. This technology makes remote administration of the facility possible. Likewise, the granting, changing or withdrawing of access rights remotely via the programming devices.





# Criteria for electronic, electromechanical & mechanical systems

## 3. Networking requirements


The wall programmer connects via the in-house network to the management server. An administrator can also prescribe a time limit for credentials to be updated — daily, for example. This adds another layer of security against threats from a lost card or programmable key

### **Wireless online systems**

With wired or wireless networks, door components receive new data instantaneously. However, due to the effort and disruption caused by cabling, wired systems are not usually appropriate. Wireless networked systems drastically reduce the need for cabling, using networked hubs instead. These hubs can also draw power from the network. Door components may be battery powered or energized by credentials.

The number of cylinders which can be communicated with via a single keystroke will depend on the capacity of the hub and the distances and spatial conditions at the site. In some cases, this type of solution may be combined with offline control at the same site, enabling specific openings to enjoy tailored levels of protection.

# Physical, data & IT security



End-users today face more extensive security requirements than ever before. This is especially true for electronic systems — but not solely for electronic systems. A triad of physical, data and IT security requirements must be met by any access control solution.

Purchasing and commissioning decisions should also be made also with an eye to the future. Possible scenarios should be taken into account — in terms of both organizational needs and the regulatory landscape.

## **Physical Security**

Operators should pay attention to whether manufacturers meet established standards, as well as take measures to demonstrate the security of their system and to improve it constantly. These can be verified by consulting certifications; internal and external test procedures; audits and weak point analyses; and in particular, case studies and customer references.

## **Privacy**

Manufacturers should have a leading privacy management system to prevent breaches. End-users, too, require procedures for handling personal data. Access control software should comply with these principles and external regulations.





# Physical, data & IT security

## **IT security**

In the course of a typical security solution's life-cycle, its software will technically become obsolete several times over. What is state-of-the-art today may be vulnerable tomorrow. Therefore, IT security must pay special attention to the sustainability of the IT security measures. Ideally, the manufacturer already has ISO 27001-compliant development processes. Important categories include information security policies, personnel security processes, access control policies and physical security measures.

For the software to be used, it should be noted, for example, whether the manufacturer maintains sustainable test-and-release development procedures. Vulnerability management must be in place to identify, escalate, remedy and distribute

penetration tests. Encryption must be state-of-the-art.

A software and technical support procedure must be established for appropriate updates, patch deployments and timely assistance. Finally, thorough documentation must be made available for operation, installation and training.



# Identifying an access control solution

CLIQ provides all the powerful features of electronic access control without any need for cabling

For facilities managers seeking an effective access control system to help manage health, safety and security, ASSA ABLOY Opening Solutions' CLIQ® offers a cost-effective, efficient and proven solution. CLIQ is an intelligent key-based access control system built around efficient key management. The technology inside high-security, key-operated electronic and electromechanical locks delivers simple yet comprehensive key management and access control, helping organizations to achieve essential cost savings and improved operational efficiencies. It extends the reach and control of facilities managers without wires: A CLIQ system is fitted without any cabling. CLIQ cylinders simply replace existing mechanical cylinders. Keys are powered by standard batteries. The system gives security teams total flexibility over assigning access rights for every user — and the length

of time for which every authorization is granted. This is supported by the ability to instantly view a full audit trail: System administrators can always keep track of which users have accessed any area. Crucially, CLIQ also enables organizations to grant access remotely. Each key can be programmed and updated individually: Keyholders have access only to the areas relevant to them and during allocated times or dates. In this way, access control incorporates health and safety measures and delivers them to all staff and visitors on-site. Each relevant staff member carries their own programmable CLIQ key. Using online management software, it is easy for organizations to issue timed permissions, with the added benefit that these access rights can be amended or revoked instantly.



# Identifying an access control solution

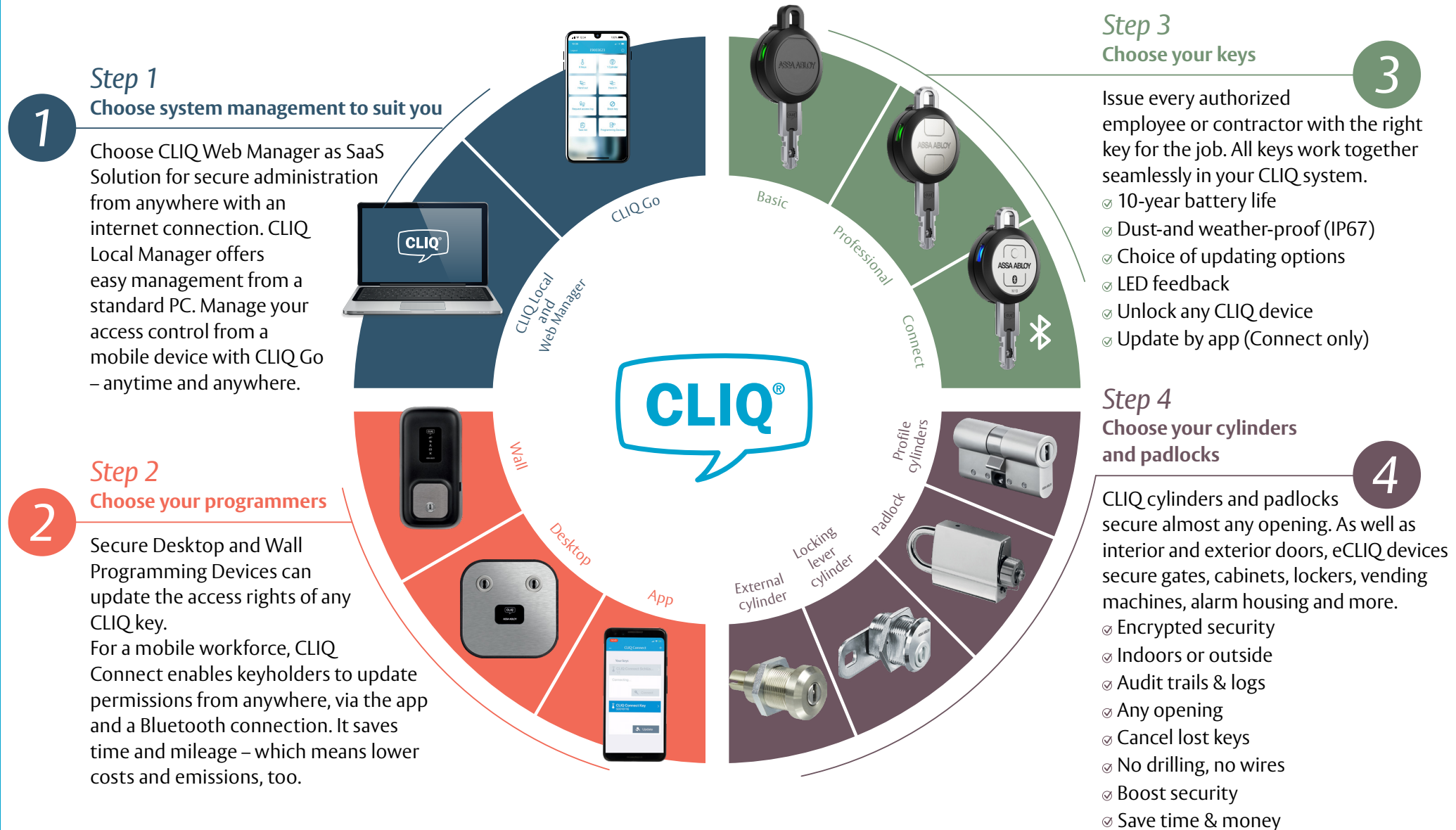


This feature can be particularly useful if out-of-hours contractors are needed, because keys can be programmed to work for a limited time only. When the contract work is complete, the key automatically de-authorizes.

Offered with EPD certification, the CLIQ solution is already helping facilities managers improve health, safety and security on all kinds of site, ensuring stretched budgets are used efficiently.

CLIQ will never box you in. You can choose from a range of software, services and integrations. Add cylinders and a choice of keys to create a CLIQ system for your unique circumstances. There is a solution perfectly adapted to your business.

# Four simple steps to your CLIQ system







# LFC Milling, South Africa

## Case study

### Sector

Manufacturing

### Challenge

Manage movement into and around a large and varied site, including controlling employee access to specific machines and equipment to ensure health and safety standards. Log all entry into specific zones like storage areas, giving facilities managers the ability to generate audit trails.

### Solution

CLIQ key-based wireless access control for doors, machines and more. They have deployed CLIQ Web Manager Remote functionality, so keys can be updated conveniently around the site. For added security, CLIQ keys are also set for specific revalidation periods: If a key is lost, it is quickly excluded from the system.

### Result

Cobus van der Linde, General Manager, LFC Milling Pty Ltd: *“We need to ensure that our employees and production processes are safe and secure at all times — and CLIQ supports that.”*



# Rotherham Metropolitan Borough Council (RMBC), UK

## Case study

### Sector

Public housing

### Challenge

Minimize the time a property stands vacant, while also accommodating multiple workers who require access to prepare houses for a new tenant. Passing keys securely between relevant staff is a major cause of delay.

### Solution

CLIQ Remote electromechanical cylinders. Now, each relevant worker carries their own programmable key. FM teams can change or revoke access rights of any key at any time — and from anywhere with a web connection. Physical handover of mechanical keys has been eliminated, speeding up operations.

### Result

Dave Richmond, Director of Housing, Asset Management and Neighbourhoods, Rotherham Council: *"A traditional key approach only added to delays. The CLIQ system speeded up our operations and made sure we could be confident about the security of our properties."*



# Communauté d'Agglomération La Rochelle, France

## Case study

**Sector**  
Utility

### Challenge

Reduce frequent break-ins and theft of valuable materials. Thirteen waste centres required locking which has a track record protecting dispersed premises and enabling more efficient working for mobile security staff: Some employees are based 25km from sites they protect.

### Solution

Programmable CLIQ key-operated electromechanical cylinders and padlocks. Because each entry must be approved by the system, the risk of unauthorized copying is negated. The new system allows easy public access to sites during business hours and tailored access at designated times to maintenance staff, contractors or supervisors.

### Result

Hervé Begaud, Communauté d'Agglomération La Rochelle: *"The number of burglaries has been reduced in a spectacular way. We used to report damages every week. Now, we have had a single, failed, attempt on a cylinder in the last 6 months."*





# Creval, Italy

## Case study

### Sector

Banking

### Challenge

They needed a new entrance locking system that would be durable and offer a secure and flexible alternative to a standard mechanical master-key system. The access control system would form an integral part of a security system that ensured assets and people had the highest level of protection.

### Solution

Creval chose eCLIQ key-based access control to provide flexible security for its banking premises. Its doors across Lombardy are now guarded by durable, programmable locking cylinders — putting Creval managers in complete control of entrance security.

### Result

[“We are satisfied with the results of the new access control solution.”](#) Claudio Brisia, Logical Security Manager at Creval, Sondrio.





# About the author

Simon Wilson has worked for ASSA ABLOY for 19 years, with well-known brands including ASSA, UNION, Adams Rite and Trimec. He has established mechatronics as a core product for the ASSA ABLOY business throughout the EMEA regions. Simon has successfully introduced CLIQ to a range of markets and vertical sectors, in the process demonstrating how this technology can improve security without adding cost or complexity. Prior to joining ASSA ABLOY, Simon held positions in technology development for Sony UK and was a Business Manager within Kingfisher group.



# Further reading material

## **Boosting efficiency and streamlining security with an integrated access control solution.**

Secure access management systems are often viewed as the starting point for a building to shift from operating in separate siloes, towards a more functional, connected and 'integrated' building management system.

Technology which provides a facility with data on occupancy levels at any given place, at any given time, enables other systems to respond in tandem, such as lighting, HVAC and power management systems.

This whitepaper aims to assess the growth of integration in security, why demand is growing from end-users and security managers, and why access control systems are considered such an important link in the chain.

Read the whitepaper [here](#)

## **Wireless access control report – technology and market trends for 2021 and beyond.**

In electronic access control, consumers can reap the benefits of improved cost-efficiency and flexibility when they adopt a wire free technology.

A report with exclusive analysis from Omdia, reveals fresh market data generated by a survey of 400 security professionals across Europe and farther afield. Respondents include end-users, installers, integrators and consultants serving large corporations and small- to medium-sized organisations in education, healthcare, industrial, commercial, infrastructure, retail, banking and other sectors.

Alongside insights on where the market for wireless access control stands today, the new Wireless Access Control Report 2021 plots the roadmap for where it heads next.

Read the report [here](#)



# We put our team of experts at your disposal



We hope you have found this brochure useful. If you wish to receive more information, please contact us and one of our experts in your area will get in touch with you.

Our technical advisor will help you to:

- Improve the security of your business
- Reduce costs
- Find out about real examples of companies that are making use of all the advantages of our access control

**PUT ME IN CONTACT  
WITH AN EXPERT**

The ASSA ABLOY Group is the global leader in access solutions. Every day, we help billions of people experience a more open world.

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Opening Solutions

ASSA ABLOY Opening Solutions leads the development within door openings and products for access solutions in homes, businesses and institutions. Our offering includes doors, door and window hardware, locks, access control and service.

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