A guide to Access Control in the retail sector

What is access control?

Access control provides the ability to control, monitor and restrict the movement of people, assets or vehicles in, out and around a building or site.

Access control is essential in the protection of people and assets and has the additional benefit of being expanded from controlling, for example, a single entrance door to a large integrated security network.

There are also huge potentials in terms of integrating access control with other systems, such as CCTV and intruder alarms, allowing for cost savings and greater security benefits.

What risks does the retail sector face and how can these be countered by access control?

The retail sector faces a variety of threats all year round, including shoplifting, organised retail crime and dishonest staff, and these risks can increase significantly during busy shopping periods such as seasonal sales.

Recently, the BSIA carried out a survey of its members to discover the trends in retail security over the last year. Over 50% of respondents felt that the use of private security measures in retail had increased over the past twelve months, with a further 65% anticipating this use to increase over the course of the next year.

Members perceived the biggest threat to retailers to be shoplifting and petty theft, with theft by employees following in second. Online theft and armed robberies were also considered to be risks.

Retail environments are full of valuable assets, both on the shop floor and in the stock room. Access control systems are all designed to permit access only to people with the necessary authority to enter a particular area, ensuring that goods and people are protected and helping to manage known or anticipated threats.

Generally, systems are comprised of three main components:

1. **The physical barrier** – to physically restrict access to a building or area. This can be achieved through methods such as:

    - Doors – secured by either a magnetic or strike lock, or can be revolving or sliding.
    - Turnstiles and speedgates – designed to limit access to one person per identification device.

2. **The identification device** – there are a number of different technologies available to identify users of an access control system, including:

    - A pr oximity card and reader via Radio-Frequency Identification (RFID) – these cards can be programmed to work at a short or long read range
    - A smart card and reader
    - A swipe card and reader
    - PIN pads
    - Biometric devices such as fingerprint or iris scanning

3. **The door controller and software** – these are at the heart of the access control system and are used to decide who can gain access through which entry point and at what time of the day are they permitted. These can vary depending on the size of the system and how many readers or sites you are trying to control from one point. Some of the options include:

    - A stand-alone door controller linked to a single door with no software
    - A number of door controllers all linked together to a single PC to control one site
    - A number of sites all interlinked together over a wide network area

The added benefits of access control

Retail environments often incorporate large numbers of staff working varied shift patterns. Access control systems can offer a wide range of benefits, including Human Resource management and integrated security systems.

Time and attendance

Retail security does not necessarily just offer protection for the shop floor itself, but can encompass all stages of the supply chain – including staff offices, warehouses and even the delivery process. Naturally, various different employees and outside visitors are involved in these processes and access control systems can assist with staff management.

Badge/token technology can be used to record employee hours and monitor visitor movement within a specific site. If appropriate, these can be processed against working hours, applicable for both temporary and permanent staff – this can be useful for busy shopping periods when additional seasonal staff are employed temporarily. This can work in real time to feed transactions through to the company's payroll. Time and attendance systems also accurately help keep employers on the right side of the European Working Time regulations and manage holidays and absences effectively. Fast, accurate and easy-to-use, these systems are suitable for businesses employing just a few people, right up to large multinational companies.

Automatic Number Plate Recognition

To monitor the movement of vehicles around an area, CCTV-style cameras and computer software can be used to identify number plates of vehicles. Some systems can also store photographs of the driver and vehicle for subsequent analysis. This sophisticated software allows critical information to be passed to the police to assist in the pursuit, identification and capture of offenders should an incident occur. For example, if a shoplifter flees the scene of a crime via a vehicle, ANPR cameras situated around an area could help identify the criminal. Visual proof of parking offences with the corresponding time and date information is provided as evidence and to avoid disputes. Using a Driver and Vehicle Licensing Agency (DVLA) link, monitors are then able to identify the owner of a vehicle and process the offence automatically.

Fire roll call

Health and safety is a key consideration for any business. Since retail environments involve multiple staff members with varying shift patterns, it can be difficult to keep track of all employees during an emergency. Fire roll call technology generates a report containing crucial information in relation to who is within the building and potentially where they are. This software operates via the access control smart card or fob that an employee uses to gain access to or exit a building. In the event of an emergency, the fire roll-call software alerts occupants to the emergency whilst simultaneously activating the report at a safe pre-determined remote point.

Please note: In order for the fire roll call software to effectively carry out its function, employees and visitors must always present their card or badge. The use of smart card or RFID controlled turnstiles can help in this situation.

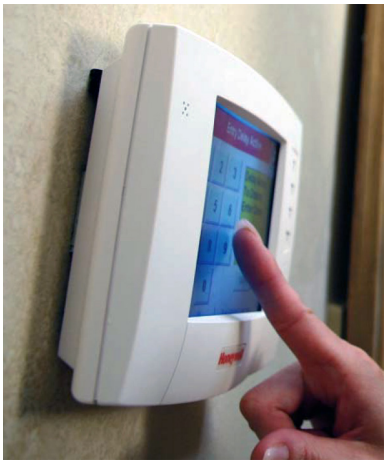
Integrated security systems

For maximum security, retail environments can benefit from a fully integrated access control system with CCTV, intruder alarms, fire detection and building management systems. One way to attain this is by adopting the use of Internet Protocol (IP) technology, which allows these systems to communicate with each other to maximise their effectiveness. Separate access control and intruder alarm systems, for example, could allow an employee to access an area that is set with an alarm.

However, unless the employee has the authority to unset the system, the access would result in a false alarm being activated – potentially causing panic in a retail environment. An effectively integrated system would recognise that the user does not have the authority to unset the system, so would not allow them in the area to begin with.

Case studies

1. Securing a department store – John Lewis – Honeywell



Summer of 2008 saw the opening of popular department store, John Lewis, at Liverpool's large leisure and shopping complex – Liverpool One. Since its regeneration, the complex has attracted over 1.5 million people – these high volumes of footfall therefore required strict and efficient security measures.

Facing a multitude of security concerns daily – such as customer and staff protection, loss of products, wastage and healthy and safety – John Lewis was particularly keen to install access control and intruder detection security. They invested in BSIA member, **Honeywell**, to provide this system. The department store was looking for a system that would be able to react to and control situations with optimum efficiency, and were particularly interested in a networked intruder and access control system with web access – having the potential to be incorporated at other stores nationwide.

With the help of an installation company and security consultancy working alongside Honeywell, the access control and intruder alarm system that Honeywell provided was selected for its increased functionality. The system allowed functions that have previously been connected by physical relays and input devices to be controlled logically over a network. It also made it possible to have full-scale management of single or multiple locations creating the opportunity to move, control or share resources across multiple locations by simply logging on to the system.

Other benefits of the integrated system included:

- Cashless vending – employees could use their access cards to purchase food in the canteen, meaning that they did not have to carry cash on their person at work. This can help to reduce the likelihood of internal shrinkage or till theft and is managed by the system, which controls and monitors the creation of cards and permissions.
- Alarm zones can be armed or disarmed by reading a card – this can reduce false alarms and dynamically notifies security that the individual is in an access control zone.
- Cardholders can be managed across multiple locations and in the event of an incident, manual overrides like 'lock and unlock doors' can be administered from the system.
- Dynamic floor plans of the store layout also offer the John Lewis Business Protection Team a graphical user interface through which they could view the alarm inputs and access control doors, and any usage/incidents associated with it.

Due to the expandable and scalable nature of the system, Honeywell's system was used to manage three John Lewis stores in Liverpool, Cambridge and Leicester with each one having 18 access control doors, 200 alarm zones, and cashless vending.

> "It's been a great investment as we are able to seamlessly expand the system in the existing sites or can add new sites without significant cost to the business."
> Paul Newbury, Development Manager, Business Protection, John Lewis.

2. Safeguarding a head quarters – The Co-Operative – Integrated Design Limited

The brand new headquarters of well-known high street retailer, the Co-Operative, have been set for completion by December 2012. The iconic round building hopes to become highly recognisable within the cityscape of Manchester, and when considering security measures for the building, architects were especially interested in systems that would fit well with the buildings stylish design.

Access control speedgates were chosen from BSIA member **Integrated Design Limited** for their design, along with their multiple benefits.

> "The stylish elliptical shaped pedestals mirrored the unique shape of the building. The optical detection technology combined with the fast-moving glass wings offered the level of security and fast throughput we required without compromising on the looks."
>
> Jim McKerlie, 3DReid Architects

For businesses, environmental commitments can carry huge importance. The speedgates proved to be environmentally efficient, with an unusually low environmental impact – a large benefit for the Co-Operative who has a commitment to making absolute reductions in their emissions. Each pedestal consumes a mere 50 watts of power during throughput and 12 watts when in standby. IDL themselves have a small carbon footprint, choosing to use local material suppliers wherever possible for quality control, along with environmental impact.

The speedgates were also easily integrated with other aspects of security in the building. For example, the turnstiles were customised to work alongside the buildings destination control system. After presenting a valid access control card, users are then guided to the most suitable elevator depending on their destination. This not only helps to improve the foot flow of a busy building, but also helps monitor the passage of every individual entering the building – increasing security.

The speedgates are designed to physically deter anyone attempting to pass with unauthorised access. Glass wings close half a second after someone has passed through, helping to prevent unwanted visitors 'tailgating' those with authorised passes and entering the building illicitly. However, safety beams also prevent the wings from closing if a person is detected in the way – helping avoid injuries.

3. Overseas – Farmers Trading Company – CEM Systems

A thriving fashion department store based in New Zealand, Farmers Trading Company, was looking for a highly reliable, flexible and fully integrated security system with the potential to be used across a number of sites. BSIA member, CEM Systems, met this requirement in the form of a powerful, fully integrated access control, alarm processing and photo badging security management system used to secure Farmers' main distribution centre in Auckland, a 23 floor office block in Wellington and various stores throughout New Zealand.

One of the key reasons for choosing this system was its seamless integration with Farmers' existing digital video recorder system and intruder panels by utilising a centrally monitored access control Graphical User Interface (GUI) – Alarm Event Display (AED). Using the AED application, Farmers own dedicated security team in the Auckland distribution centre can remotely view CCTV footage through the access control system and have events tagged to video in order to provide a more secure staff environment.

The integration with the intruder panels provided Farmers with the ability to arm and disarm their alarms through the means of a virtual keypad. Inputs from the panels were placed on graphical maps, representing each intruder sensor, allowing for integrated alarm monitoring.

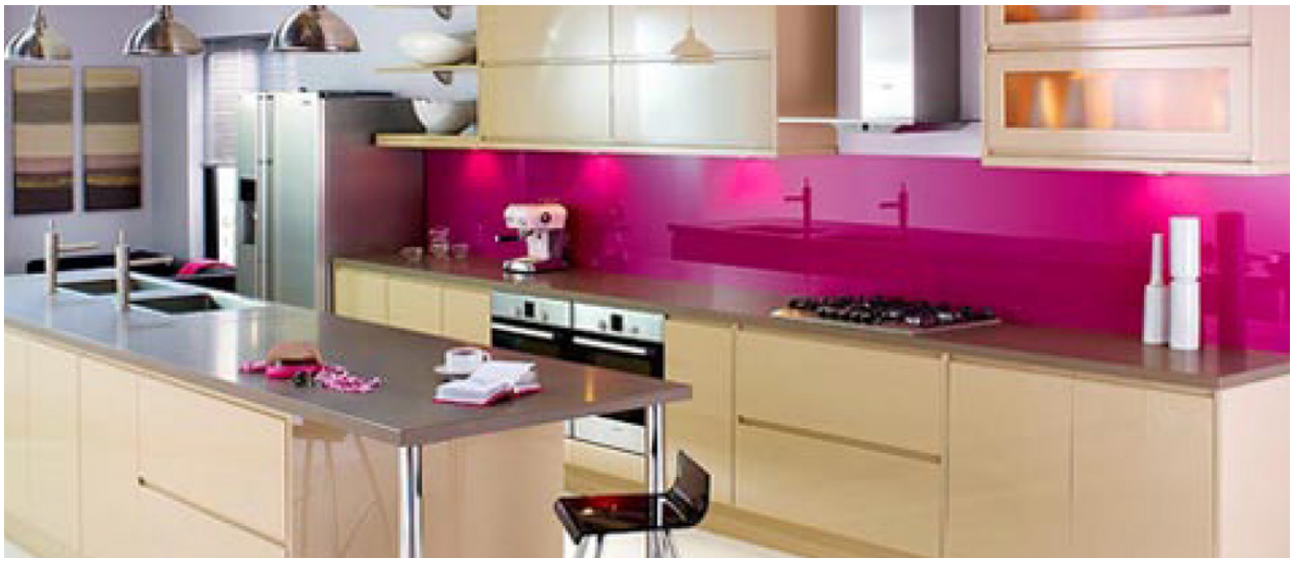
Farmers were also looking for a quality Internet Protocol (IP) security management system that could be installed with maximum efficiency to minimise the requirement for cabling and power supplies. Subsequently, a selection of CEM two-door controllers and IP card readers were installed. The card readers were installed on critical doors throughout the department store, connected via IP addresses to Farmers' secure and dedicated corporate IP network. The added benefit of a keypad also means that staff can enter PIN codes for extra security.

These readers offer a high level of reliability, featuring an internal database for offline card validation – meaning if communication is lost temporarily with the host server, staff can still validate their cards using the card records stored in the readers' internal memory, which can store the information of over 200,000 card holders locally.

All of the doors were connected using CEM Power over Ethernet Plus (POE+), technology which allows for Ethernet cabling to deliver sufficient power to both readers and locks at each door. The two-door controllers also created sizable cost savings on the Farmers project as they eliminated the need to fit dedicated mains power supplies above each controlled door.

Following this installation, future plans are in place to roll the CEM system throughout the 65 Farmers stores across New Zealand.

4. Workforce management solutions – B&Q - Kaba



The DIY and garden centre retailer, B&Q, now in its 33rd year of trading with a turnover of 3.2 billion, has used access control as a means of a workforce management solution. With 33,000 employees and over 300 stores, an efficient time management system was a welcome solution for the retailer.

They chose BSIA member **Kaba** for the implementation and installation of a time recording solution throughout most of their stores. They were looking for a heavy-duty system that could help the company develop efficient processes to record staff attendance in stores along with integrating seamlessly with their SAP HR software. Kaba's system provided these specifications.

The chosen system is also assisting B&Q with the development of rules with which to govern how time-keeping records should be used for pay-roll accounting. Data is recorded centrally and sent to HR software for time evaluation, in which the respective store directors supplement and confirm the work sheets and then forward them to the payroll software.

> "The solution makes it possible to book up to 40,000 employees at peak times quickly and without a time delay. As a SAP certified software partner, Kaba was also able to guarantee that the system is continually developed further and is thus future-proof."
>
> Gary Farrow, Project Manager SAP T&A

5. Securing multi-site structures – RISCO Group

BSIA member, RISCO Group, have been designing, developing, manufacturing and marketing end-to-end security solutions for over three decades. Leading companies within the retail sector who were concerned about the growing cost of IT infrastructure and the expense of supporting their existing security systems approached RISCO for a solution.

RISCO identified the need for an integrated security solution that would meet the needs associated with the multi-site structure of a typical retail organisation. Such a solution would need to address issues such as the growing demand for enhanced levels of store security, managing staff and customer parking, stockrooms, warehouses, shipping and transit depots along with providing centralised monitoring and maintenance.

The growing cumulative costs associated with running different access control systems within their sites was especially frustrating for the retailers, with the adoption of new technologies, such as multi-function smart cards, being blocked due to the impossibility of migrating legacy systems to a common platform.

RISCO addressed these requirements with a unique cloud-based access control system. The system addresses the multiple challenges the retail sector can face, such as: a central management solution for a multi-site environment, issues with low internet bandwidth between remote sites and a central control room, the large-scale, scope and turnover of access control card holders and the need for effective housekeeping of the cards. In addition, RISCO saw the need for a high level of solution flexibility to enable movement seamlessly between the different sites and various security zones at the different stores and regional locations.

RISCO's system eliminated the necessity for a dedicated server at each location and onsite deployment requires only individual site controllers, readers and door furniture. The system is centrally hosted and managed via the web by a RISCO hosted platform. The approach also gives way to deployment costs because services are provided on a SaaS (Software as a Service) basis.

Alongside the cloud-based system, RISCO also offered an integrated security and management platform and a range of intrusion detectors and panels.

Since the concept of infrastructure convergence is of importance to retailers, the platforms offered by RISCO elevate security levels by integrating disparate systems and delivering key security management and safety situation and incident responses on the central control room. This makes identifying an incident anywhere in the retailer's estate a quick and focused process and enables an unlimited number of sites to be controlled through one single user interface.

Site security devices and real-time video enhance store security as well as providing accurate and real time information regarding security status. Users can choose which areas to track, such as restricted areas, store floors and stockrooms and place triggers on them to activate misdemeanour alarms using the synoptic map layers associated with the platform.

The capability to secure sites coupled with the live monitoring of store floors, therefore improves the day-to-day functioning of the retail operation.

What else should you know when considering access control?

An initial risk assessment of an area can determine the level of security required and subsequently influence the access control system you choose. BSIA access control members and professional security consultancies can assist with this.

BSIA members are subject to rigorous checks before they are admitted into membership, meaning that you are selecting a quality company. Below are just some of the reasons why BSIA members can offer you peace of mind:

- They are independently inspected to the quality standard ISO 9001 with a UKAS accredited inspectorate
- They comply with relevant British and European Standards and codes of practice
- Are financially sound
- Professional
- Staff vetting has been conducted where necessary
- They are technically proficient and committed to quality training and development
- They are up-to-date with the latest developments in British and European policy and legislation

What legislation should you be aware of?

The Disability Discrimination Act was amended in 2005 and has a significant impact not only in terms of the design of new systems, but also means that many systems may need to be upgraded to ensure compliance and adequate, user friendly access to the building for all staff and visitors. The BSIA has created a guide to help design access control systems following the introduction of these revisions, which can be downloaded by **clicking here**.

Other considerations to be aware of:

- National minimum care standards
- Health and Safety at Work Act
- Occupiers Liability Act
- Management of Health and Safety at Work Regulations

Where can I go for further information?

For more information on the work of the BSIA Access and Asset Protection Section, visit **www.bsia.co.uk/sections/access-asset-protection**

To find an access control provider in your area, visit **www.bsia.co.uk/find-a-security-company**

