

# ACCESS CONTROL – an integral part of all pro-active security requirements



**Access control has become vitally important in today's security environment. Who is allowed on your site? When are they allowed on site? How do you monitor time and attendance? How do you restrict staff within their departments? Who's he? Do your staff carry ID?**

The following provides a detailed overview of the benefits of installing modern access control within your workplace.

In physical security, the term access control refers to the practice of restricting entrance to a property, a building, or a room to authorised persons. Physical access control can be achieved by a human (a guard, porter, storeman or receptionist), or through mechanical means such as locks and keys, or through technological methods such as access control systems, which control electronic or mechanical locks.

Access control security systems can be an effective way of controlling and monitoring access to your premises for both pedestrians and vehicles, and, if designed correctly, can offer significant improvements in security and efficiency. By integrating access control with intruder, fire and CCTV systems these, benefits can be further enhanced.

## ACCESS CONTROL - SYSTEM MANAGEMENT

If you control more than just a few fob- or card-readers within your organisation, then it may make sense to have them administered centrally by wiring all read-

ers to feed back to a central computer. This will make it very easy to add or delete fobs/cards or, for example, to set them up to work at certain times on certain readers only.

A PC based access control system can provide complete control over who gains access to your business or site. The key benefits of a centrally controlled PC based access system are:

- Central Control - All doors can be controlled from one place.
- Reporting - An event is generated every time a swipe-card or token is used to gain access.
- Flexibility - Access can be granted to users according to time and place; restricted sites will only be accessed by those with the correct permissions.
- Remote Sites – Monitoring by PC means that everything on a remote site can be controlled in exactly the same way as it would be at Head Office. Access control technology can be installed at remote sites and monitored 24/7, using CCTV and /or audio systems. This type of technology could enable you to better track your workforce by knowing when they were on site, as well as warning you of unauthorised intrusions.
- Roll call & muster reporting – System-generated reports can be used as a means of checking staff at a central point if an alarm activation requires the evacuation of a building.
- Time sheets for time and attendance – PC-based systems can show the number of hours worked by each employee. They can also enable you to check at a glance who is in and who is out.



## SYSTEM MANAGEMENT OPTIONS

Stand-alone access control systems are effective at safeguarding premises, but their effects can be multiplied many times over when integrated with other systems. Industry experts report that the current trend is towards integrated security solutions and advanced network systems<sup>1</sup> and that demand for IP-based open architecture systems – enabling the integration of access control with other security-related solutions – is likely to continue. A survey from IMS Research on the global access control market (The World Market for Electronic Physical Access Control Equipment) has concluded that benefits such as remote access are now being recognised by users of access control. Senior analyst at IMS Research Paul Everett says,

*"In addition, IP-based access controls are*

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## DIFFERENT METHODS OF ACCESS CONTROL : PERSONNEL

### KEY PAD

Typing in the correct code will allow the lock to open. A **keypad** works in conjunction with an electronic door release or an electronically operated lock.

### FOB READER

Holding a small fob or token up against the reader plate will send an electric impulse to the door lock causing it to release. The **fob readers** can be tailored so that the door releases simply by sensing the presence of the fob in your pocket or handbag. A fob-reader works in conjunction with an electronic door release or an electronically operated lock.

### AUDIO INTERCOM

Typically seen on residential and small commercial buildings this is a simple one way analogue telephone entry, comprising a door panel, lock release and handset. This type of **Audio Entry Intercom System** provides audio communication between the protected and unprotected side of an entrance, allowing verification of the identity of a caller before granting access. Access is usually achieved by triggering a lock release, or similar locking mechanism, by simply pushing a button located on the receiving handset. This type of system would normally incorporate a door station and an internal phone style handset.

### VIDEO INTERCOM

On large commercial premises or apartment blocks the types of digital systems used could include audio and multi-way Video systems. The **video door entry system** is the same as the audio door entry system but includes the added benefit of providing live video at the door station. The video telephone allows the resident to view callers at the entrance, speak with them and then grant access, which would be achieved by triggering a lock release or similar locking mechanism on the telephone handset. This system would be the same as that used for the Audio system but would typically include a small camera built in to the door station and a small monitor in the telephone handset.

### TELEPHONE BASED ENTRY SYSTEM

Some larger sites, especially those that are monitored from a central station, would utilise a **telephone based entry system**. These systems would usually be installed in conjunction with other security products, but can also form part of a stand-alone system. These systems would be linked to a standard telephone line or PABX system: when the button is pressed the unit will dial a pre-programmed number. Upon answering the phone, audible communication can be held between the door station and telephone. Access can then be granted by pressing a pre-programmed button on the telephone handset. This type of system could be used for commercial properties requiring controlled access for out-of -hours deliveries.

### SWIPE-CARD READER

Swiping the card through the reader will send an electric impulse to the door lock causing it to release. A swipe-card reader works in conjunction with an electronic door release or an electronically operated lock.

### BIOMETRIC READER

The only widely available commercial form is the fingerprint reader. Upon installation the prints of 1 or 2 fingers per user are programmed into the reader. Presenting the correct fingertip to the reader plate will send an electric impulse to the door lock causing it to open. A biometric reader works in conjunction with an electronic door release or an electronically operated lock.

### PROXIMITY READERS

Proximity refers to any reader that does not require swiping, insertion or contact with a reader - the card merely has to enter the reader's proximity, which could be as close as a couple of centimetres. Proximity readers are an emerging technology that make controlling and regulating door access easy and secure. Also known as 'proxy readers', these are fast and easy to use: you simply hold your proximity card in front of the reader, and your code is securely and instantly transmitted from the card to the reader via a radio signal. If the system recognises the signal as an authorised entry, it automatically releases the magnetic lock or door strike holding the door shut.

*easier to program, have faster connection speeds, offer real-time access to information and are easier to integrate. As customers migrate to networked video surveillance systems, the case for IP-based access control becomes even more compelling as the same network infrastructure*

*can be used."*<sup>2</sup>

## BENEFITS OF INTEGRATED ACCESS CONTROL

Modern systems can also be customised to suit the needs of virtually any facility, as

demonstrated in the following case studies:

### CASE STUDY: BIOMETRICS

A major food processor in the East Midlands employing more than 800

## DIFFERENT METHODS OF ACCESS CONTROL : VEHICLE

### PROXIMITY TAG LONG RANGE

Vehicle proximity tags can be read from as far away as 6 metres, whilst a vehicle is moving at up to 35 mph, and are now being used for parking applications and for controlling access to gated residential communities. An Automatic Vehicle Identification System requires an individually encoded ID "Tag" to be placed on each vehicle. As the vehicle passes by the tag is read by a reader or by a transmitting/receiving antenna. The identification number of the vehicle tag is then sent to a controller which makes the decision to open the gate. This is a hands-free operation, the driver just drives in and parks. This type of operation saves each driver from stopping and having to search for change in their pocket or bag, or from swiping a magnetic or proximity card or maybe punching a keypad, which benefits both the driver and the facilities management personnel.

### NUMBER PLATE RECOGNITION

The technology uses optical character recognition software to scan images to read the number plates of the vehicles. Number plates can be checked against a database, and only validated vehicles can then gain access to your site. The technology can read and record number plates in order to help understand traffic patterns, identify visitors and control access where required.

Typically a vehicle would drive onto an induction loop; a camera would take a picture, and the software would check the number plate to see whether the vehicle has already been registered with your company. If it has, the gate opens automatically, but if it is an unfamiliar vehicle, a gate-guard contacts the driver over an intercom, quickly records the vehicle's data into the system and then grants access. When the vehicle exits the site the software records their departure.

### MANNED GUARD

Manned Guarding can provide both reassurance and deterrence. The very presence of a uniformed guard shows that a business is conscious of its surroundings: guards can be used at key points, making them a harder target for criminals. Guards can also be integrated with technological access control systems, such as CCTV cameras. The types of commercial premises that utilise manned guards include retail parks, factories, warehouses, office buildings and car parks.

members of staff has just installed a PC based biometric finger print system. Prior to the system being installed any individual was able to walk onto the site and enter the buildings and high-risk production areas without being challenged.

As part of their industry audit and the requirements of major supermarkets the company needed to enhance security and prevent unauthorised movement.

After consultation with security provider GBSG the processing company quickly realised that ,with the influx of European and agency staff, a proximity access control system would not work, as issuing and controlling the tags/cards would be too complex. Moreover, because food is produced on the premises, the employees would not be able to take tags into the work areas.

To circumvent these problems, the

company has now installed a PC based biometric finger print system. The operation is controlled via eleven separate finger print readers which allow entry into the secured areas of the building and site. Initial enrolment of the finger to the controlling computer takes a few seconds; the

finger print can then be associated with an individual's information, and programmed through the system to operate only the relevant doors at the required times.

The system is fully controllable and



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operates through an easy to use software programme. This allows users to be programmed for certain doors and access points. Time zones can also be set to prevent off-duty personnel entering the building and production areas, and user groups can be configured to allow only selected personnel into specific areas at specific times. Installation of a biometric system has meant that the company can fully control access into their premises without the need to worry about tags being passed on to unauthorised personnel.

### CASE STUDY: MULTIPLE SITES

One of Lincolnshire's largest accountancy firms has recently installed a new access control system in all of their premises located throughout the county. The firm employs more than 400 people throughout the group, and all personnel are controlled from the HR department located at the Grantham office.

The customer required a solution that was simple to use with one main point for programming and control. GBSG therefore installed a PC programmable access control system. The system controls seventeen doors at the various offices via proximity readers. During the daytime some of the doors are programmed with time zones, enabling the doors to be kept open, allowing free customer movement when the office is open; other doors are kept locked and access is only permitted when a valid proximity tag is presented.

The system is fully programmed and controlled via dedicated software at the Grantham office, enabling the time zones to be adjusted and tags to be issued and removed as required. In addition the system provides full logs of personnel movements should the office need to track the use of proximity tags.

The doors at each of the sites are linked



to the internal computer network and then back to the Grantham office via a WAN connection (Broadband). When the software is opened at the main office the system automatically connects to each of the door stations via the associated network. Upon connection the data from each door station is synchronised to the computer, allowing the door to be reprogrammed when changes have been made, and also downloading the logs for inspection if required.

This system provides the customer with the ability to control access to all of their offices from a central location, without the need to have internal staff at their own individual offices with responsibility for controlling access. This makes the sites and operation of the system much more secure with less room for operational error.

### NEXT STEP – REVIEW YOUR ACCESS CONTROL

Access control systems cover a wide range of possibilities in terms of security, complexity and cost. The variety of solutions available can seem overwhelming to the hard-pressed buildings or facilities

manager who has to select the right option for their business at the right cost. Therefore we recommend that you take objective and free advice from the professionals; preferably from a company that is accredited to the highest security industry standards (National Security Inspectorate (NSI), British Security Industry Authority (BSIA)). At GBSG we have many years of experience in this field and can offer a full range of security products and services, allowing the best solution to be tailored from an innovative use of all options. All projects are specified after in-depth consultation of the customer's requirements, providing a unique solution that will cause minimal intrusion in terms of both usability and maintenance. By providing a total security solution we are able to offer additional functionality due to system integration and a single contact point for all communication with industry leading customer support from professional, efficient and friendly staff.

If you would like to arrange a free consultation to review your access control, or any other security requirements you might have, please contact us on 01775 821100 or e-mail to [enquiries@gbsg.co.uk](mailto:enquiries@gbsg.co.uk).

#### USEFUL REFERENCES

<sup>1</sup> <http://www.info4security.com/story.asp?sectioncode=13&storycode=4121149>

<sup>2</sup> <http://www.info4security.com/story.asp?sectioncode=12&storycode=4117431>