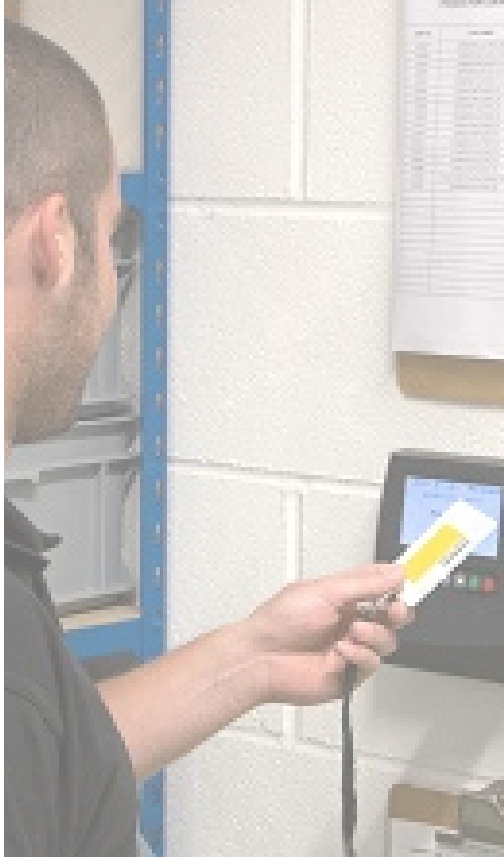


Access control **in schools**

A useful guide to **keeping schools safe**

THE VOICE OF THE **PROFESSIONAL SECURITY INDUSTRY**

bsia
british security industry association

Why do schools need access control?

With so many factors potentially threatening the security of our schools, school officials have a duty of care to both their staff and pupils, and a legal responsibility to provide a safe environment in which children can learn.

In 2016, the National Counter Terrorism Security Office (NaCTSO) issued advice to leaders of schools and other educational establishments on reviewing their protective security, stressing the importance of being prepared and confident in a crisis. The guidance emphasises the fact that assessing the day-to-day risks faced by a school and sourcing quality security measures to mitigate them is of the utmost importance.

In today's world, schools can face a number of threats both inside and outside of school hours, including arson, bomb threats, vandalism, intruders, attacks on children or staff, missing children and theft.

Lockdown Procedures for Schools and Education Centres

In response to the increasing risks of knives, firearms and terrorist attacks, on schools and educational centres, and reports of such incidents becoming all too familiar in the press; the need for robust and effective procedures to protect children, pupils, staff and visitors to minimise risk is, sadly, now an essential consideration here in the UK.
Whilst it is not mandated by Law, most Council/Education Authorities highly recommend that schools & education centres have a process in place and have produced 'Lockdown Procedure' guideline documents for reference. There is also information available via the NPCC (National Police Chief's Council) website where NaCTSO (National Counter Terrorism Security Office) have prepared guidance on developing Dynamic Lockdown Procedures.

A Lockdown Procedure provides an effective plan to quickly restrict access to and movement throughout a building (or area of a building) through actions and physical measures in response to an imminent threat.

When faced with a threat posed by an intruder or emergency situation outside the school that prevents the evacuation of students from the building, schools should be prepared to take steps to isolate students, staff visitors from danger by instituting a school lockdown.

A school lockdown can serve several functions during an emergency, including the following:

- Removing students & staff from the threat;
- Isolating the dangerous situation from much of the school;
- Allowing for an accurate accounting of students within each room; and
- Depending on the situation, facilitating an organised evacuation away from the dangerous area.

There are two main lockdown situations:

Lockdown with warning: the threat is outside the school building.
Lockdown with intruder: the threat or intruder is inside the school building

The BSIA has provided access to both end user guides and links to relevant NPCC guidance notes via their website www.bsia.co.uk/guidance

The average school has a transient population with many high value goods such as computers and IT equipment, personal possessions of staff and students and not to mention personal and financial data, all of which can be extremely attractive to thieves.

If in the wrong hands, the loss of such equipment or data can be detrimental and can severely damage the reputation of a school. Taking into account these risks, it is important to choose security measures that will not only protect staff, students and assets, but that will integrate seamlessly with the design of a building.

Access control systems, as well as physical measures such as escape doors and cylinder locks, can help manage known or anticipated threats by controlling, monitoring and restricting the movement of people, assets and even vehicles in, out of and around a building or site. In a school environment, access control systems can be used to restrict access to certain areas of a school, such as an office containing important equipment, an IT room or a storage room containing hazardous scientific equipment.

Outside of school hours, they can restrict access to the entire building to authorised personnel only. At the perimeter of a school, access control points can be utilised at gates or fences, being accessible during school hours but restricted to authorised personnel when the school is closed.

Access control: what does it mean?

Electronic access control systems have become increasingly more commonplace in schools in order to enhance safety and security. Generally, systems consist of three component parts:

The physical barrier – to physically restrict access to a building or location via such methods as:

• Doors which can be secured by either a magnet or electric strike lock, or can be revolving or sliding; and

• Turnstiles and speedgates – designed to limit access to one person per card presented.

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

• A proximity card and reader using Radio Frequency Identification (RFID) – these cards can either work at a short read range or a long read range;

• A smart card and reader;

• A swipe card and reader;

• PIN pad; and

• Biometric – such as fingerprint or iris scanning.

The door controller and software – these are at the heart of the system and are used to decide who can gain access through which access point and at what times of the day. 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 standalone 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; and

• A number of sites all interlinked together over a wide network area.

As well as electronic access control measures, schools should also make use of high quality physical security measures in order to control movement. Within a school, it can be useful to fit some doors, such as classroom cupboards, caretakers storage areas and key overrides to doors containing access control, with a mechanical 'patented' cylinder lock under a Master Key system. Escape doors can also be fitted with crash bars or push pads and made to be emergency exits only. The crash bars can also be integrated with alarm systems, meaning that if the door is opened – perhaps by a child looking to run out of school – an alarm will sound and personnel will be alerted to the area.

It is also very important to consider the type of doors used in order to provide streamlined access to and within a school, particularly for those who may have a disability. Automatic sliding and/or swing doors, for example, can be more beneficial than heavy manual doors, particularly for younger students. At the entrance to a school, revolving doors can also be worthwhile, as they can act as an airlock to keep out draughts, noise, dust and dirt. In these cases, it is wise to fit an automatic pass door as well to allow access for those who may not be able to enter through a revolving door.

Once you have decided on the most appropriate access control measures for your school, you can then ensure that different people have the correct access permissions for specific areas. Sixth formers, for example, may be allowed permission to enter a computer room unsupervised, while the rest of the students may only enter with a teacher. Teachers and cleaners may also have access to the school outside of hours, with different levels of responsibility determining the level of access required. For out of hours school or community clubs, access can be granted to certain areas of the school – such as the gym – and set to specific days and times.

The added benefits of access control Integration

Integration: Access control systems can be especially beneficial when integrated with other security systems within a school, such as CCTV, intruder alarms and fire detection systems. Through the use of Internet Protocol (IP) technology, these systems can effectively 'talk' to each other in order to maximise their effectiveness. CCTV, for example, can be integrated with access control in order to provide pre and post event recordings. If someone tries to forcefully enter an access controlled area, or leave through an emergency exit, the CCTV system can be alerted to start rolling and provide footage of who is trying to enter or exit through the access point. As previously mentioned, these areas can also be integrated with intruder alarm systems in order to raise an alarm if someone is trying to force a door open.

Cashless Vending: Access control identification devices can be used not only to grant access to areas of a school, but also within the school cafeteria. Smart cards or fobs can act as a money card, meaning children don't have to carry cash with them to school and potentially reducing the risk of bullying due to economic differences. The cards can also store vital information on them regarding allergies or dietary requirements. In addition, the cards can also have the capability to be utilised as a library card, keeping track of which students have which books.

Dynamic Lockdown: Dynamic lockdown procedures are now becoming a part of school security strategies, with NaCTSO issuing specific guidance on developing procedures to dynamically lockdown school sites in response to a fast moving incident such as a firearms or weapons attack, either directly at a school site or in the vicinity. Dynamic lockdowns have the ability to restrict access and egress to a site or building (or parts of it) through physical measures, such as an access controlled door.

The aim of a lockdown is to stop people moving into danger areas while keeping attackers out. Panic hardware can be fitted to doors and windows throughout the school, particularly 'final exit doors', which are often used as shortcuts to other areas of the school, such as a playground. In situations of 'panic', the panic hardware must be capable of self-locking, and a Pullman type latch integrated with a door closer can help achieve this. If a lockdown is required, the access control system can integrate with an intruder alarm, which can be triggered by a panic button. The trigger of the button can then signal to the access control system to close the doors and windows, enabling the Pullman latch to close into a locked position. It can even interact with the air conditioning systems in order to maintain temperature.

School Information Management Systems (SIMS): Access control systems can be integrated with SIMS, sharing important student and staff data in order to determine access permissions. Such details can include full names, gender and start date at the school, allowing the student to be grouped into their year and registration group, with staff being grouped into their department. Integration with SIMS can also help manage time and attendance, which can be especially useful in the event of a fire roll call evacuation, where the clocking system updates the cardholder's roll call status and book staff and students on or off the fire roll call evacuation report depending on their access data.

Environmental Benefits: If an outside door, such as a fire exit, has been left or propped open, it can consequently let cold or hot air in and out of the building, affecting the overall temperature of the school.

In these cases, the access control system can trigger an alert in order to notify a school official so that the door may be closed as quickly as possible. In other areas of a school, perhaps a less used classroom or computer room, authorised access control systems can integrate with Building Management Systems (BMS) to automatically activate or deactivate lights and other electrical equipment. This way, energy is only being used when the room is actually being utilised.

Key considerations when choosing a system

It is important for schools to undertake regular risk assessments of the building in order to determine the level of security required and the most appropriate access control system that will meet your needs. When choosing a supplier of an access control system, there are various criteria that the company should meet with in order to ensure you are choosing a good quality company. Ask yourself:

- Are they are a member of a trusted trade association like the BSIA?
- Has the company been inspected to the quality standard **ISO 9001** accredited by a UKAS certification body?
- Do they meet with relevant British and European standards for their products?
- Are they financially sound and professional?

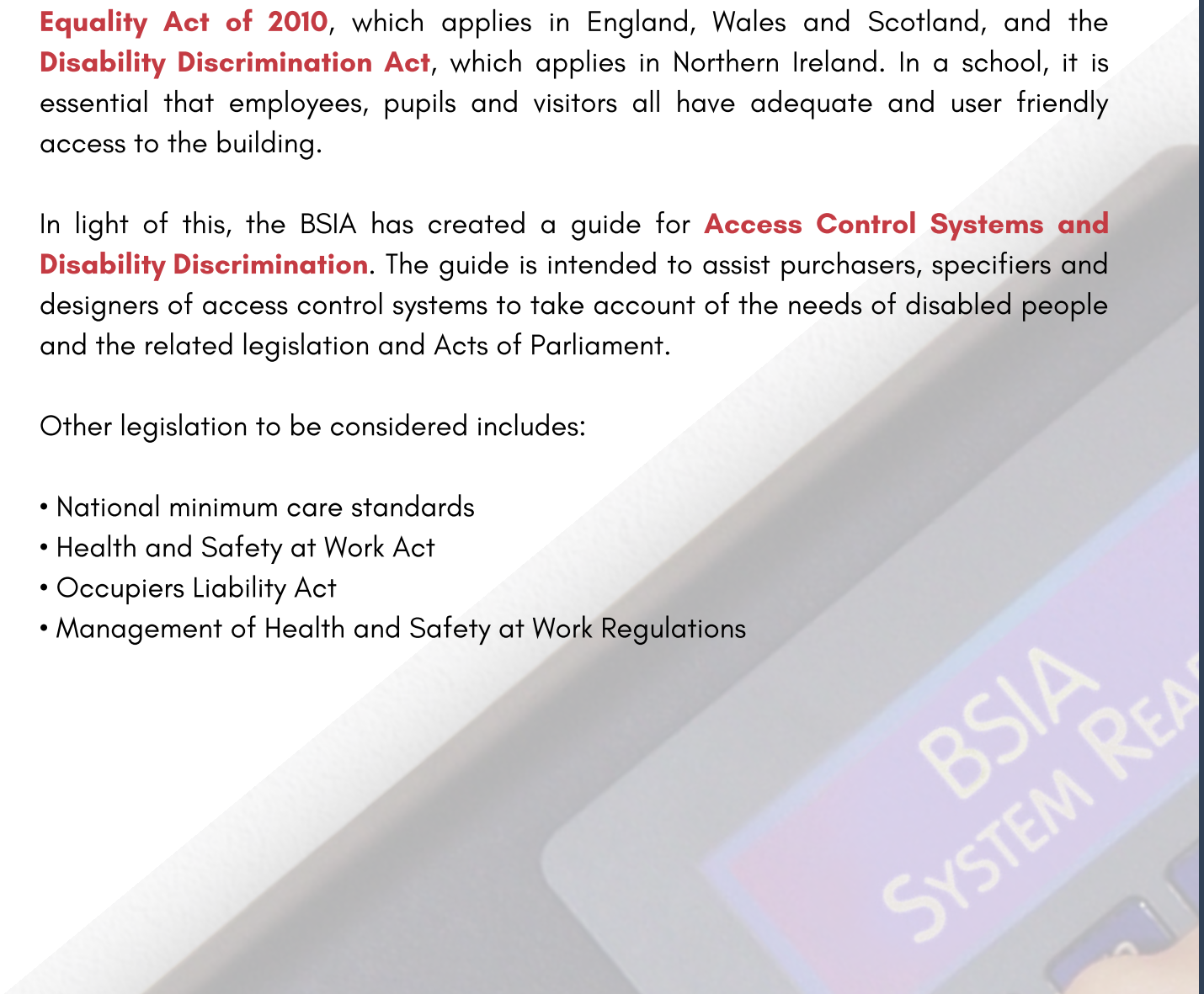
Is there legislation to be aware of?

When choosing an access control system it is important to take into account the **Equality Act of 2010**, which applies in England, Wales and Scotland, and the **Disability Discrimination Act**, which applies in Northern Ireland. In a school, it is essential that employees, pupils and visitors all have adequate and user friendly access to the building.

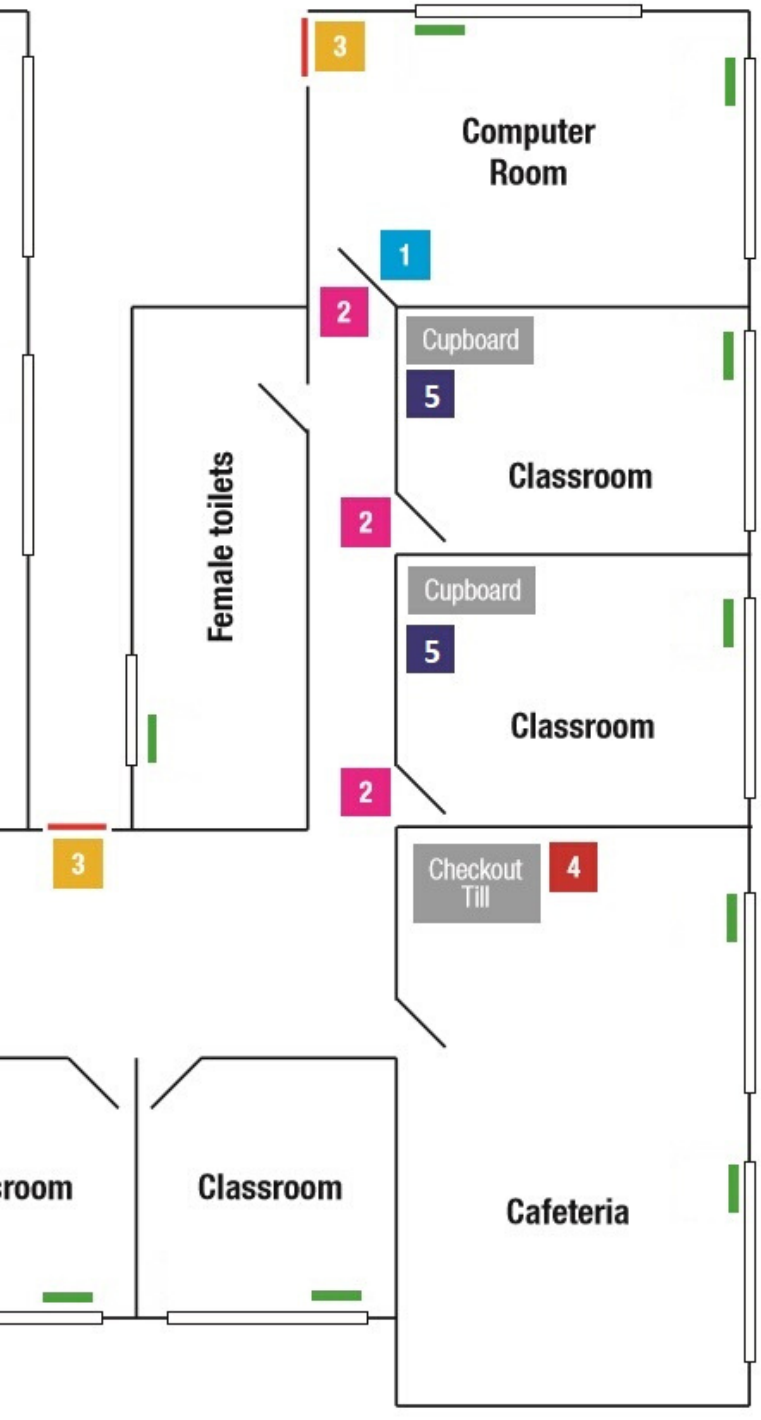
In light of this, the BSIA has created a guide for **Access Control Systems and Disability Discrimination**. The guide is intended to assist purchasers, specifiers and designers of access control systems to take account of the needs of disabled people and the related legislation and Acts of Parliament.

Other legislation to be considered includes:

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



Access control plan of a typical school



Security device key

- 1 — Door secured by magnetic or electric strike lock
- 2 — Identification device required for entry
- 3 — Door fitted with crash bar or push pad
- 4 — Identification device used for cashless vending or personal
- 5 — Mechanical patented cyinder lock
- Physical window protection

Examples of Best Practice

Hybrid access control solution for Lydney Community School

Lydney C of E Community Primary School is a medium sized primary school set on the edge of the Forest of Dean. The school has seven classes with 216 children on roll and was using a standalone access control system using a magnetic stripe card reader.

The school were looking to upgrade their system and chose Nortech to provide an IP networked CRC220 2-door controller with slim line proximity readers to control access through the main entrance to the building. The system also included several compatible NanoQuest standalone door controllers to protect internal doors to restricted areas. The small proximity fobs issued to all school staff are managed centrally by Norpass3, Nortech's access control software.

Norpass3 is very user-friendly, and also provides critical features such as event management and report generation plus options to interface with alarm systems and CCTV.

"The school has had the Norpass3 system in place for four months and we have found it to be very easy to understand and use, and extremely flexible. The staff have found the system to be so easy and reliable that I would recommend this system without hesitation."
Head Teacher, Lydney Community School

Examples of Best Practice

Oxford Junior School Hampshire school

Orchard Junior School is situated in the village of Dibden Purlieu, Hampshire, where the staff pride themselves on their “happy, safe and purposeful environment.” The school needed an easy to manage and reliable means of improving security whilst allowing staff access to the main school entrance. Having previously used a keypad system, the school wanted to upgrade their system and chose NanoQuest, a solution from Nortech, which was fitted by Southampton based security installer, Complete Security.

The system provided a cost-effective means of managing staff access and enhancing security through a standalone proximity based integrated access controller and reader accompanied by contactless key fobs, which eliminate wear and tear.

“Staff are delighted with the easy programmability of the NanoQuest unit as well as its simplicity of use."
Complete Security, Southampton

Examples of Best Practice

Controlsoft

Fingerprint to access Broughton Hall High School

Broughton Hall High School is a Technology College for girls, located in the city of Liverpool, with nearly 1600 students and 250 staff. In 2010, the Building Schools for the Future (BSF) programme provided Broughton Hall with funding to create a new shared sixth form facility with neighbouring Cardinal Heenan High School for boys and refurbish the retained part of the school, which dates back over 90 years. As part of the this BSF programme, Mike Clays, Premises/Facilities Manager for Broughton Hall School, decided to replace the existing card access system with a fingerprint access system to control 38 doors. They chose the fingerprint system from Controlsoft for the simplicity of the enrolment software and the speed of identification by the fingerprint reader. The network capability of the system also enabled Controlsoft to utilise the school's existing IT infrastructure, which saved on cabling costs.

"We need to lock down certain areas and we need to control the times of the day/days of the week that students have access to the buildings. The Controlsoft software makes administration of all the access rights very straight forward. Controlsoft provide excellent training so it doesn't take long to get familiar with how to use the software."
Premises/Facilities Manager,
Broughton Hall School.

Examples of Best Practice

Controlsoft

Alsop High School choose Biometric Access Solution

Alsop High School is one of the largest secondary schools in the city of Liverpool, with nearly 1800 students, including over 300 in the sixth form. In 2010 the Building Schools for the Future (BSF) programme provided Alsop with £22 million to create new facilities and refurbish the 82 year old school's existing premises and playground. As part of the BSF programme, they invested in a Fingerprint Access Control System from Controlsoft. They chose the system based on the size of the database, needing the reader to handle over 1000 users at a fast pace. The Controlsoft reader can handle up to 50,000 users and can identify a user in one second or less, storing user templates locally in the reader so the PC does not need to be on-line to make an access control decision.

"In 2012, this system had ninety (90) doors controlled by fingerprint readers, just over nine hundred (900) students / staff enrolled and has been operational throughout the school for 2 and a half years now and I am still impressed with the quick identification speed of the readers and the overall performance of the system. I also get very good support from Controlsoft, as and when I need it, which is also very important."

Business Manager
Alsop School

Examples of Best Practice

Redbridge College warm to dormakaba

Redbridge College is a Skills for Life College, dedicated to helping all learners improve their literacy and numeracy skills and achieve nationally recognised qualifications. The college were looking for a security system that would allow them to create an open, stimulating and comfortable environment, while ensuring that people and equipment are protected from the threat of theft, vandalism and physical attack. dormakaba were invited to carry out a detailed site survey in order to provide a specific solution for the controlled entry of visitors, students and staff to the educational facility.

dormakaba proposed and subsequently installed a fully automatic Talos RDR-E01 revolving door and bilateral automatic pass doors. Talos revolving doors provide an energy efficient solution for entrance areas thanks to their thermal separation design incorporated into the façade of a building. The automatic pass doors were installed either side to provide seamless access for people with a reduced mobility and for the transportation of goods via the reception area. Benefits included: excellent thermal insulation, customised design, solutions for emergency escape routes and stylish all-glass versions.

"dormakaba's revolving doors have more than matched our requirements and will prove cost effective. The installation was clean, tidy and swift with minimal disruption to our students and staff and the after sales support has been very efficient with same day or next day response times."
Alan Steward
Redbridge College

Examples of Best Practice

dormakaba revise Gloucestershire College security

Gloucestershire College, formerly known as Gloscat (Gloucester College of Art and Technology) is one of the UK's largest further education colleges. Since the year 2000, Gloucestershire College has been pursuing an exciting accommodation strategy that has already delivered a brand new state of the art campus in Cheltenham and now the relocation of its three Gloucester sites to a single facility in the heart of the scenic Gloucester Docks.

The college were looking for a security solution that would ensure the well-being of all their personnel, students and their personal belongings. Gloucester Locksmiths were called in to provide both an electronic and mechanical locking solution to meet the Colleges' requirements and after listening carefully they were pleased to offer a complete solution utilising dormakaba products.

Subsequently, dormakaba received an order via their long term approved dealer Gloucester Locksmiths to supply and fit 256 C-Levers incorporating card-based security and almost 300 pExtra cylinders. It was decided that all interior quarters such as classrooms, sports halls, IT rooms and the health and beauty spa were to be secured with the dormakaba Elolegic C-Lever solution, whilst Gege pExtra was the mechanical system of choice to protect all perimeter doors and gates from outside intrusion.

The dormakaba Elolegic C-Lever is a stand-alone, mechatronic door fitting whose electronics are integrated within. Access is gained using a choice of contact free media such as keys, ID cards or fobs when fitted with the renowned LEGIC chip. If a valid medium is read by the electronics, a motor engages the handle coupling and the door can be opened for 5 seconds. In addition, the LEGIC chip allows other applications such as time & attendance, cash-free payment and audit trail.

Examples of Best Practice

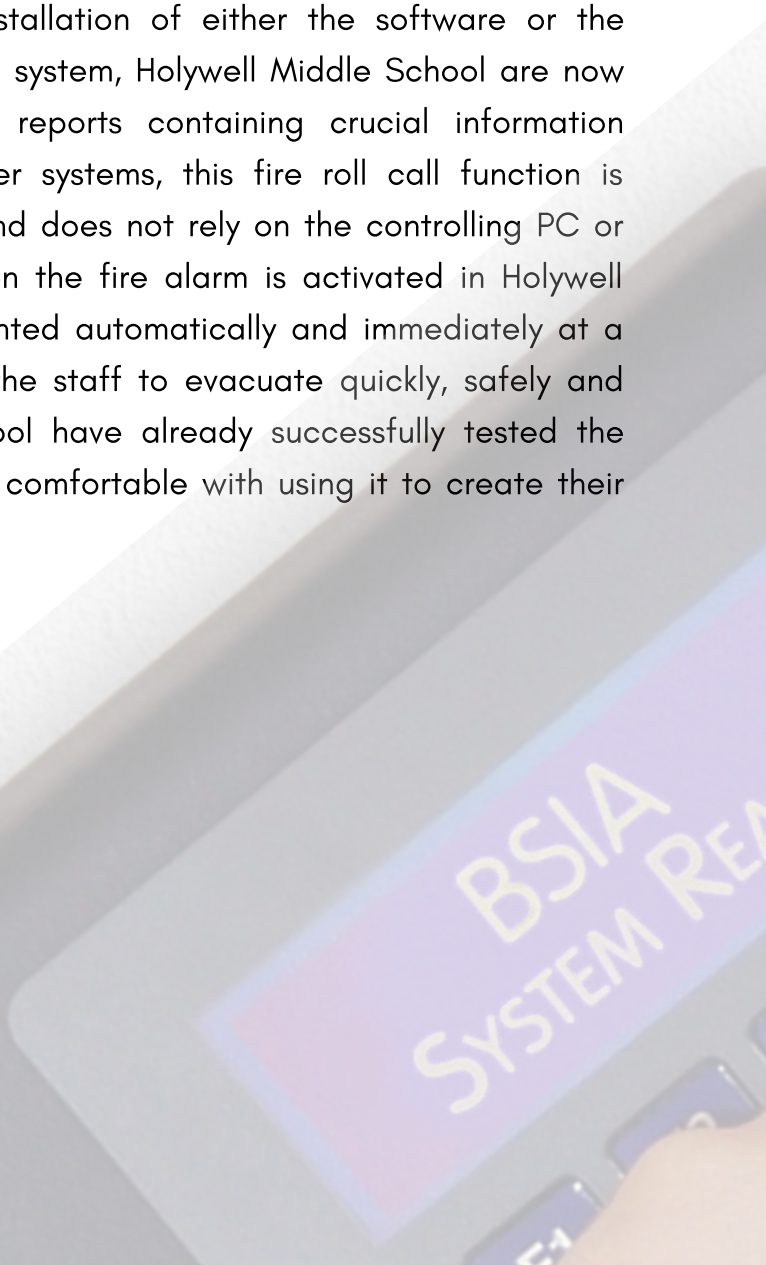
Tensor plc

Holywell Middle School, Cranfield

Holywell Middle School, located near Cranfield in Bedfordshire, educates pupils aged from 9 to 13 years old. In early 2009, the school's Business Manager, Colleen Dinner, was reviewing Fire Health and Safety procedures after having been requested to do so by the Acting Head at that time. In particular, the school needed to be able to account for staff as accurately as they did the pupils. Colleen reviewed the various systems available in the marketplace and on the internet and decided upon a system from Tensor. Tensor installed the new fire roll call and attendance monitoring system in May 2009.

No problems were encountered with the installation of either the software or the hardware. By installing the Tensor fire roll call system, Holywell Middle School are now able to print out immediate fire roll call reports containing crucial information concerning who is on site. Unlike most other systems, this fire roll call function is executed directly from the clocking station and does not rely on the controlling PC or computer infrastructure. This means that when the fire alarm is activated in Holywell Middle School, the evacuation list is then printed automatically and immediately at a safe pre-determined muster point, enabling the staff to evacuate quickly, safely and account for all those present. Holywell School have already successfully tested the system during their regular fire drills and feel comfortable with using it to create their instantaneous evacuation reports.

"It's very easy to use, maintain and represents real value for money. The Tensor staff are very good ambassadors of the company and ensured we were very happy with the outcome, even after installation."
Business Manager,
Holywell Middle Schools



Examples of Best Practice

Tensor plc

Tensor checks attendance at South Craven School

South Craven is a large, mixed 11-19 comprehensive school, situated in Cross Hills, North Yorkshire. It is the largest school in the Craven District and has over 1700 pupils, as well as 200 members of staff.

The school's board first thought of installing a Time and Attendance and Access Control system in late 2009, in order to accurately account for both staff and pupils. School governors opted for the Tensor Smart Card Time & Attendance and Access Control system because it represented "very good value for money". The Tensor system comprises multiple IP Network based Access Controllers, designed to restrict access to specific rooms or areas, coupled with electromagnetic locks. Two clocking stations were also installed within easily accessible locations, enabling members of staff to clock on and off site in a fast and easy manner - using their Smart Cards - as fast as they can walk!

The Tensor WinTA.NET Enterprise Edition which is our flagship Windows™ based School Time and Attendance 10 of 7 product. This provides total control matching the schools rostering and working patterns, Access Control and System Security. It can even be linked at a later date into "clip" based CCTV so that the school management has a real-time view of what is happening within the school.

"We phoned Tensor for support and the Operations Department engineers came over the following day [...]. They fixed the functionality problem we experienced very fast and in a professional manner. It's a good company that supplied a good system with efficient after-sales support." *Network Manager, South Craven School*

Examples of Best Practice

Tight integration with IP-based access control breaks new ground

The Bede Academy in Blyth covers 12,500 square metres and offers education to some 1150 pupils aged 11-18 years old; while the 4000 square metre primary school called Bede South held a further 640 pupils aged 3 to 10 years old. They wanted to build a safe and secure environment for the large academy school and were looking for a system that would deliver a high level of security, while minimising the manpower to monitor and keep it running. As such, it needed to maximise operator efficiency, provide complete accountability in case of incidents and deliver clear return on investment over time.

A further challenge specific to the academy was the need to make both sites highly secure, while remaining totally open. 2020 Vision Technology were commissioned to build a fully integrated IP-based access control and surveillance system. The school had limited security and facilities management resources, so any system needed to be intelligent, taking the hard work out of monitoring both sites day and night. 2020 Vision specified and integrated a total of 192 network cameras and 13 analogue-based CCTV cameras across both sits that was fully integrated with an IP-based access control system provided by Gallagher.

The network and analogue-based CCTV camera images were connected to an Instek Digital recording solution, linked to a command centre. Tight software-level integration between Instek's solution and one Gallagher Command Centre located at each site, together with a total of 41 Cardax FT Controller 3000 door controllers, deployed alongside Mifare smart card machines, generated significant benefits for the security and facilities managers at the North and South Bede sites, meaning the Academy has been able to realise its vision of creating an open, yet highly secure school.

The voice of the professional security industry

The British Security Industry Association

The British Security Industry Association (BSIA) has led the way for over 50 years in the shaping of the private security industry. Our members are industry professionals ranging in size from global companies to small and medium enterprises, offering quality products and services to a vast spectrum of end-users.

It's our mission to be the voice of the professional security industry, supporting members and encouraging excellence, while educating the marketplace on the value of quality and professional security, and creating an atmosphere in which our members can flourish.

Our mission and vision

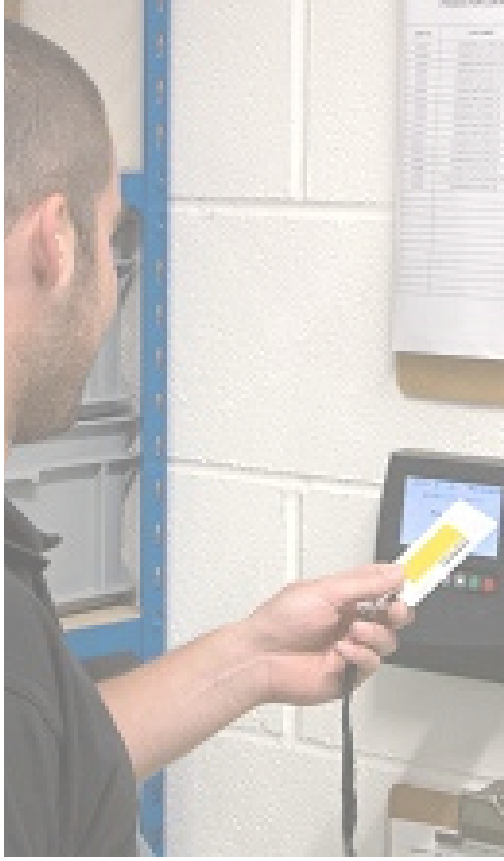
The BSIA is the voice of the professional security industry, supporting and encouraging excellence; educating the marketplace on the value of quality and professional security; and creating an environment in which to flourish.

BSIA Membership is the symbol of quality and professionalism in the security industry.

Further information on access control

For more information on the work of the BSIA's Access and Asset Protection Section and guidance on standards:
www.bsia.co.uk/access-asset-protection

To find an access control provider in your area:
www.bsia.co.uk/aap-members



Access control in schools | BSIA Form no. 331 | March 2020

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BSIA Ltd / Anbrian House 1 The Tything | Worcester WR1 1HD