

A guide to access control for manufacturing sites



What is access control?

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

Access control is essential for all businesses to protect people and assets and has the added 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 HR and other systems, such as Time and Attendance, Visitor Management, ANPR, Fire, Intruder and CCTV.

What risks does the average manufacturing site face and how can these be countered by access control?

The average manufacturing site has a changing environment in which the constant flow of goods, materials and people creates both opportunities and attractions for thieves. Access control systems are all designed to allow access only to people with the necessary authority.

Generally they comprise three component parts:

- 1. The physical barrier** – to physically restrict access to a building or location via such methods as:
 - Doors – secured by either a magnetic or strike lock or can be revolving or sliding.
 - Car park barriers and rising kerbs to restrict vehicle access.
 - Turnstiles and speedgates – designed to limit access to one person for one card presented.
- 2. The identification device** – There are a number of different technologies used to identify users of an access control system, such as:
 - A proximity card and reader using RFID – cards can be programmed to work at a short read range or a long read range.
 - A smart card and reader.
 - A swipe card and reader.
 - PIN pads.
 - Biometric (fingerprint, iris scanning).

3. The door controller and software – The door controller and software are at the heart of the system and are used to decide who can gain access through which access point at what time of the day. These can vary dependent 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.

What added benefits can access control systems bring?

Visitor monitoring

In a manufacturing site context where visitors can blend in with the high volume of staff present, the use of PC and computer networks should be considered. These systems can print photographic ID and allow access to be restricted to certain areas within the site. Moving to a software solution for visitor management is an easy and inexpensive solution and can provide a number of added benefits.

Time and attendance

Within a manufacturing setting, which can see large numbers of people entering and leaving the building at particular shifts, badge/token technology can be used to record employee hours. These can be processed against shift patterns and working rules 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 plan holidays, absences as well as manpower rostering. Fast, accurate and easy-to-use, these systems are suitable for businesses employing just a few people, right up to large multinational companies. Hardware links can also be connected to a fire alarm panel to produce an automatic Fire Roll Call report.

Automatic Number Plate Recognition

To monitor the entrance of vehicles on site, particularly in relation to manufacturing sites where thieves may need to bring vehicles to carry stolen goods away, 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. 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.

Asset tagging

With a range of valuable assets being kept on site, asset tagging can prove beneficial. Asset tags (Fixed Asset Labels, Property ID Tags, Security Labels, Asset Management Labels) are used to identify, locate and track physical assets and discourage fraud within a business at specific points or within broad coverage zones.

Tag identification and location information is instantly forwarded over a network to a host computer running the software

to provide real-time management solutions via powerful reporting, display, and decision and control functions. Alert signals can also be tied into existing alarm, access control and surveillance systems. Linked assets and people can be tracked and located within close proximity, thus providing an automatic, non-invasive asset protection solution while enabling freedom of movement.

Integrated security systems

Sites can benefit from a fully integrated access control system with CCTV, intruder alarm, 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 'talk' to each other to maximise their effectiveness.

What key considerations should be taken into account when considering access control?

The outcome of the risk assessment for your manufacturing site will determine the level of security you require and in turn influence your choice of access control system to be used. BSIA access control members and professional security consultancies can assist with this.

BSIA members go through rigorous checks before they are admitted into membership, meaning you are selecting quality companies and gaining peace of mind. Below are just some of the reasons why you could benefit from using the services of a BSIA member:

- Independently inspected to the quality standard ISO 9001:2000 with a UKAS accredited inspectorate.
- Compliant with relevant British Standards and Codes of Practice.
- Financially sound.
- Professional.
- Staff vetting conducted (where appropriate).
- Technically proficient.
- Committed to quality training and development.
- Up-to-date with the latest developments in British and European policy and legislation.

Is there any legislation I should be aware of?

The Disability Discrimination Act was amended in 2005 and has 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.

The BSIA has created a guide to help design access control systems following the introduction of the revisions.

Case studies



1. Time and attendance – Imperial Tobacco

One BSIA member installed a combined access control and time and attendance system to an Imperial Tobacco site, the world's fourth largest international tobacco company. The system checks an employee's badge against their security access patterns, only allowing authorised personnel access. It then automatically generates a time and attendance transaction which is fed through to the attendance monitoring system.

Since the original installation, further access control points have been added to the system. These were to control access to the outdoor smoking shelters.

Mike Gillard, Factory Engineer, felt that Imperial Tobacco use the system to its full potential. Asked what he liked most about his security system, he replied: "Its ease of use", and he described as "good" the ease of use of the Smart Cards by the workforce. Mike also said that they have had to use the fire roll call system on occasions.



2. Integrated access control – Ultimate Packaging

A BSIA member was used to install a fully integrated access control, time and attendance and HR system for Ultimate Packaging, one of the most powerful independent forces in the food packaging industry today. The system took advantage of non-contact Smart Cards to allow easy access for authorised personnel. The system was also interfaced with the company's existing intruder alarm and CCTV systems.

When the new Smart Card access control, time and attendance and fire roll call system was installed, interfaces between the integrated access control system and Ultimate's existing intruder alarm and CCTV system were also put in place.

IT Manager, Jeremy Hodson, said: "The main advantage of this system was that it used non-contact Smart Cards which are very easy to use, reliable and unobtrusive. The software also had excellent reporting facilities. Compared to other systems I have used in the past, the integrated system we chose was easy to manage and was infinitely expandable. In essence, it is a scalable product that can grow as the business grows."



3. Wireless IP system – Air Products

One BSIA member worked with Air Products, a leading global supplier of chemical products, services and solutions, who needed a single partner to manage the roll out of security upgrades to 25 sites across eight countries in mainland Europe. All the sites are operating facilities with live process systems, significant large vehicle traffic and, often, thousands of cylinder movements.

The UK programme had combined an integrated CCTV, access control, intruder and intercom solution with remote management. It was vital to consistently meet Air Products' global equipment and procedures standards across different site layouts. A traditional hard-wired approach would have been too disruptive and the costs prohibitive. The solution,

therefore, was to design and deploy a secure wireless IP solution for all of the systems incorporating CCTV, intelligent video motion detection and access control. It was the first application of its type in mainland Europe. Over five of the higher risk sites are now managed from the purpose-built security management centre.

John Wilson, Air Products Project Manager, comments: "We have been very satisfied with our working partnership with the BSIA member company. The team has proved innovative, supportive of our safety requirements and flexible in overcoming the many obstacles that occur on complex sites and installations."

What should I do now?

To find a BSIA Access Control member in your area who can advise on an appropriate system for your site, visit www.bsia.co.uk/companyfinder.

For more information on the work of the BSIA Access Control section, which includes useful case studies of successful access control applications and other useful guides and publications, visit www.bisa.co.uk/accesscontrol.

Alternatively, you can contact the BSIA on 0845 389 3889/info@bsia.co.uk, who'll be happy to answer any questions that you have.