Closed-circuit television (CCTV) is the use of video cameras to transmit a signal to a specific place, where it can be viewed on a monitor, and recorded. The output from CCTV cameras can therefore be watched in real time or reviewed as recordings.

CCTV systems can play an important part in a museum’s defence of the collections against theft or damage. It can also support staff and visitors when an incident occurs and offer a deterrent to a would-be offender. However, a CCTV system is only effective if it is part of an integrated approach to security which encompasses a full range of physical and procedural measures against threats, such as alarm response procedures, alarm maintenance and checking, layout of exhibits, and physical structure of the building.

Balanced and reliable CCTV systems that meet the needs of museums and their collections are only achieved if all relevant parties are involved in the planning process. This might include an architect, curatorial staff, the person responsible for the building’s management, the insurance company or Indemnity Adviser, a security consultant a local police representative. Remember, when setting up CCTV systems, the installation and maintenance of systems is a highly competitive business in which the customer has a strong negotiating position.

For general information about CCTV, see Design Out Crime published by the Alliance Against Crime.

Basic CCTV principles

If you decide to install a CCTV system:

• it must be part of an integrated approach to security of collections in your museum, and form part of the security management strategy of your buildings and collections

• every CCTV system is unique to your museum, and its installation and use needs to respond to your situation and the needs of your collection

• your system needs to be maintained and monitored
• your use of CCTV must be legal and comply with the Data Protection Act. Your CCTV activity needs to be legal because law enforcement requires that CCTV images used as evidence must be lawfully acquired. The Information Commissioners Office which regulates information rights on behalf of the public has produced a detailed publication, *Data Protection: CCTV code of Practice*, which contains a very useful checklist, see their Appendix 2 *Checklist for users of limited CCTV systems*, which will ensure that you are complying with the Data Protection Act in your use of CCTV.

• to further ensure that the full benefit of CCTV is achieved in support of prosecutions through the criminal courts it is essential that properly defined procedures are in place. To this end it is recommended that a Code of Practice governs the use of your CCTV system and that a Procedural Manual regulates the use of your equipment. The CCTV User Group has extensive experience of the management of CCTV systems, and has produced the Model Code of Practice and a Model Procedural Manual. Copyright of the manual remains with the CCTV User Group. The publication is extensive, however it may be useful as something for museum to adapt for their own purposes.

The benefits of using CCTV

• *crime reduction*. This is the greatest benefit of CCTV, although it is possible that some criminals are beginning to adapt their methods to take account of the presence of cameras. To achieve the maximum deterrent effect, the system has to be overt and well planned: the benefit of crime reduction depends on knowledge by the public of the presence of effective cameras.

• *aid to invigilation*. It is often suggested that CCTV can be used to replace staff or that its presence will eliminate the threat of crime altogether. Neither suggestion is true, but if its application is planned carefully, then staff can be deployed more effectively, which might lead to savings.

• *crime detection*. Good CCTV images can play a significant part in the identification of crime suspects.

Designing a CCTV system

Your CCTV system needs to respond to the needs of your museum, its services and your collection. When setting up a system you need to consider:

• your building, its layout, entrances and exits, and the location of your collections

• specific security problems that you have identified

• the number and position of your CCTV cameras
There is often a good strategic position with adequate light where a camera can be positioned. To improve the chances of recognition. This might be in the reception area or at some other point through which visitors must pass. The best use of cameras can be achieved through positioning them:

• in blind or remote areas
• in those areas where particularly valuable or vulnerable artefacts are displayed
• in those places that have been fitted with intruder alarms
• in retailing areas
• at emergency exits
• at access points in non-public areas, e.g. staff entrances and loading bays. Particularly, consider points where a door release is being operated remotely from the point of access.

Be aware of the angle of your cameras so that they are not set up in a way which, for example, is too high and only captures the top of people’s heads or where the cameras’ vision is obscured by parts of the building or foliage.

**The quality of the live and recorded images**

The quality of images is important in the case of theft or damage to your collections, and good quality is ensured in the planning of the system and its maintenance after installation. This benefit will be limited unless all cameras are recorded on a ‘multiplex system’ which will record all the selected cameras, not just the one displayed on the monitor.

One of the most common failings of CCTV is images which are too small to aid identification of an individual. The Police recommend the three best of the four standards for CCTV images:

• identification quality, where a figure is 100% screen height
• recognition quality, where a figure is 50% screen height
• observational quality where a figure is 25% screen height

You should consider having at least one camera which provides identification quality images of everyone entering your premises. Colour is the better option, if it can be afforded.

**The lighting in CCTV surveillance areas**

Good lighting will improve the quality of the images being recorded. Also remember that CCTV filming is almost useless after dark in areas with no lighting. You might want to consider Passive Infrared detectors (PIRs or PIDs) which link to your lighting system and turn lighting on when activated by movement.
How and when you will monitor your cameras

The two most common positions selected for monitoring in museums and galleries are (a) the reception area where it is has a deterrent value in that it is seen by all visitors and (b) in a central control room. These can be the excellent positions, but they are often by the availability of resources and are not necessarily the only options available.

It is worth considering the provision of another monitor elsewhere, perhaps with a curator or other responsible person. Viewing of this second monitor might be fairly casual, but its very existence increases the chances of criminal behaviour being detected.

In the larger museum, monitors are best located in the control room, which is the command and control centre with ready access to all means of communication.

You will also need to think about site monitoring during closed hours. You will only be able to monitor during closed hours if you have 24 hour security staff or you work with other suppliers, such as Town Centre schemes, who can contract your services during closed hours.

Installing a CCTV system

You will need to think about the company that you are going to work with as you design your system. It is likely that you will already have a monitored intruder alarm, and you may want to choose to use that company. Whichever company you choose, you should make sure that they are certified by a UK Accreditation Service, such as the National Security Inspectorate (NSI) which measures and approves security services and products against the standards demanded by the Police, Fire and Rescue Services and the insurance industry. The NSI Directory lists all the companies who have successfully achieved NSI certification.

Before awarding a contract, it is advisable to ask prospective companies to carry out demonstrations on site to ensure that the system will meet your specifications.

Maintenance of the CCTV system

A written maintenance schedule and log for your CCTV system should form part of your general maintenance and housekeeping procedures. Maintenance of a CCTV system should include procedures for:

- regular maintenance of the system including cameras and wiring, paying particular attention to recording heads and picture quality

- the secure storage and archiving of images, whether digital or video. Digital systems holding images and data on the hard drive must be kept in a secure location. The number of cameras and duration of recording will influence the size of the hard drive units required. 28 days is the usual minimum retention period
• the overwriting of digital documents, particularly in circumstances where analogue
video tapes are re-used. Simply recording over old material is not satisfactory, not
least because this may compromise a tape’s acceptability for evidential purposes.
Video tapes have a finite shelf life. Arrangements should be put in place to monitor how
many times each has been used and a maximum number of recordings should be
specified.

• budgets should take into account replacement of the cameras when necessary as well as general maintenance costs.