

CAUGHT ON CAMERA

The effectiveness of closed-circuit television as an effective law enforcement tool has come under scrutiny. **Gary Mason** and **Nigel Green** explore whether Big Brother has a big future

The use of CCTV pictures in the detection of crimes has come in for some heavy criticism. But senior police officers and industry experts in the UK claim the technology is still a vital crime-fighting tool, although there is room for dramatic improvements, including the use of so-called 'intelligent' CCTV.

Recent reports in national newspapers claim that just one crime a year is solved for every 1,000 cameras in the UK. But this is inaccurate according to Det Supt Mick McNally, who is in charge of the Metropolitan Police's Javelin Project – which collects and labels CCTV footage centrally before distributing it across the forces.

The distortion is largely caused by the frequent use of a speculative figure that there are more than four million cameras in use across the UK whereas, in reality, when local authority cameras and private cameras are taken out of the equation, the figure is nearer 60,000 according to Det Supt McNally.

'CCTV is a very effective tool,' he says. 'It regularly helps to identify victims, witnesses and suspects of criminal activity and can even prove that a crime has not been committed.'

'CCTV can also help prevent crime by alerting officers to incidents such as rowdy youths and other public order incidents,

demonstrated by the recent football violence [between supporters of London clubs West Ham United and Millwall in a domestic cup competition].

'Thousands of crimes are solved in the Met with the assistance of CCTV each year. Over 70 per cent of murder investigations are solved with the help of CCTV pictures.'

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'We [the Met] are the UK leaders in identifying unidentified images through an effective circulation process using officers, partners and the media to help identify criminals. We have had more than 5,300 incidents submitted to the Met's circulation unit with over 1,200 images identified to date.'

Impotent gaze

However, a leading criminal barrister criticises the quality of evidence gathered from CCTV cameras. John Bromley-Davenport QC, from

Manchester, highlighted the case of Wayne Redfern, who was kicked to death by a gang outside a pub in Kirkham, Lancashire, in June 2006. Some of the fighting took place under the 'impotent gaze' of CCTV cameras, says Mr Bromley-Davenport.

He adds: 'Although much of the action was captured on film, the quality was not sufficiently good for the purpose of identification and the presence of the cameras was no deterrent to those involved.'

The men were eventually jailed after they were arrested, based on evidence supplied by eye-witnesses – not the CCTV cameras.

'Cameras can, occasionally, provide evidence, although the quality of film is frequently so poor as to be worthless. But they do nothing to deter criminals – the large number of crimes, committed in the full view of cameras, provide eloquent testimony to that.'

'The presence of policemen on the streets is the *sine qua non* of a safe and civilised society. Cameras do not deter; and the ubiquitous community officer is no substitute for the real thing. In the streets and public places of our towns and cities, it is a police presence which is required and not cameras – the expense of providing a bobbies on the beat would be cheap at the price.'

In response, Det Supt McNally says: 'There are a number of areas for improvement in CCTV, ranging from poor-quality pictures to privately-owned systems not recording or recording over events. We are helping to improve the systems and process surrounding CCTV identification and image collection to ensure CCTV is an even more effective investigative and prevention tool.'

'The better the quality of the image the better the chance of success.'

Image consultant

One UK biometrics specialist technology vendor supports the Met's call for making more effective use of CCTV and facial images.

An internal report commissioned by Det Supt McNally says the Met is considering creating specialist CCTV and digital-imaging investigation teams.

Stewart Hefferman, the CEO of UK biometrics company OmniPerception, says: 'Huge investment has been made in the CCTV infrastructure in Britain and it now has more cameras than any other European country.'

'Forces such as the Metropolitan Police

have been leading the way in making more intelligent use of both CCTV and still images. However, it has been widely recognised that the potential for such images to be used as valuable intelligence in both major and volume crime investigations has yet to be fully realised.'

OmniPerception has been working to help educate forces in making more intelligent use of what has the potential to be a powerful evidential tool.

'Our background as providers of facial biometrics, video analytics and other advanced image processing and recognition applications makes us uniquely placed to provide forces with advanced technology and our expertise in how to make optimum use of such technology in an evidential context,' says Mr Hefferman. 'At present, we provide two distinct capabilities – the ability to analyse and track objects such as logos in "real-time" and also the ability to use face recognition and surveillance to identify a person through their face.'

Despite the fact that these are currently two separate disciplines, the company sees the two becoming more closely aligned so

they can provide police with a single video analytic capability that will either identify objects such as distinctive clothing or track logos and faces – depending on the quality of the individual image.

The quality of CCTV is variable and it might be that an officer is analysing a piece of footage where the face is not easily identifiable but other aspects such as a distinctive top are. On the other hand, it might be that the face is the most distinctive feature.

OmniPerception believes that having a single technology that is able to assist frontline officers in the identification of a suspect, whether it is by face or other distinctive features, has the ability to revolutionise the effectiveness of images as evidence in crimes.

'This is quickly being realised by the majority of forces we work with and it is clear there is an increasing appetite for such technology,' Mr Hefferman says.

'We hope to continue to work with the police and other security and law enforcement organisations to ensure they can make maximum use of the technology in future.' ■

INTELLIGENT SOLUTION

A POSSIBLE solution to the problems facing CCTV evidence gathering involves the use of so-called 'intelligent' systems.

Computer software can now be used to filter through thousands of hours of footage to highlight points of interest to control room operators or police officers.

One company specializing in this technology is Birmingham-based Scyron, which was set up in 2001 and now has a team of around 20 people.

Scyron supplies 'intelligent' CCTV software to the Federal Bureau of Investigation and Department of Homeland Security in the US, as well as more than 40 police forces and many local authorities across the UK. The company claims its software can be easily fitted to CCTV systems and programmed to alert operators to a range of situations, such as a person approaching a restricted area or walking against the flow of traffic.

The alerts can be in the form of a monitor switching to the camera

concerned, an audible alarm or a text or mobile phone alert sent to the controller.

Scyron also provides software that can search through thousands of hours of footage to look for a particular clue – such as a person walking through a door.

Nicholas Smith, sales director for Scyron, said: 'It will still be left to the operator to make critical or subjective decisions but we can filter 99 per cent of material that is completely irrelevant.

'It takes about five working days for a police officer to view a 24-hour video tape, tag and then burn scenes to evidential standards. We have developed intelligent software that can search through a video and locate specific scenes.

'Our ability to shrink this operation to just hours amounts to huge cost savings, enabling forces to better deploy their scarce resources and better utilise taxpayers' money.

'We estimate that around half of the CCTV cameras in the country

are next to useless when it comes to safeguarding the public against crime and assisting the police to secure convictions. But let's not throw the baby out with the bath water. While many CCTV cameras may not be effective, we believe that CCTV has the potential to be the third forensic science.

'This means there needs to be changes to the way video evidence is collected, processed and presented in court. For example, we welcome the change from analogue to digital cameras, but there needs to be fewer media players for digital CCTV. There are currently more than 6,000 different formats – clearly there needs to be some rationalisation and standardisation.

'We also consider that adding intelligence to cameras would be a huge step forward. This would enable the authorities to do more with less.

'Big Brother need not be watching you. Intelligent cameras can keep vigil and only alert an officer when a potential incident is taking place.'