12 January 2021 at 5.00 pm

**This meeting will be held virtually via Zoom,
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Scrutiny Committee

Supplementary Agenda

	Pages	**Contact**

8. **In-Depth Scrutiny, CCTV Working Group**   (Pages 1 - 20)

    Draft Report

If you wish to obtain further factual information on any of the agenda items listed above, please contact the named officer prior to the day of the meeting.

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Interim Draft report of the CCTV working group to the Scrutiny Committee

At this stage we are in a position to share with members the first part of our report into the CCTV service at SDC.

This draft report consists of:

- A statement of our aims in producing this report
- An overview of the technical specifications of the CCTV system
- A list of the kinds of work we have undertaken in evidence gathering

We are not yet in a position to give the committee:

- Our full evaluation of each piece of evidence we have collated
- Our agreed set of recommendations

Remit/Aims

To Consider:

1. The effectiveness of the service in reducing crime
2. Whether the quality of images needs to be improved
3. The privacy impact of the service
4. Whether the financial resources of the council are being well applied, i.e. the cost effectiveness of the service.
5. The number of convictions arising from CCTV.
6. Whether and to what extent CCTV deters crime, and how this might be measured.
7. The positioning of our town centre CCTV systems, "Are they in the right places?"
8. The implications of emerging facial recognition technology.
9. Whether and how a financial contribution to CCTV could be garnered from other agencies (e.g. The police, CPS).
10. What recommendations to make following consideration of the above.

Overview of the CCTV system at SDC

Sevenoaks District Council (SDC) maintains a system of 144 cameras[1]. The majority transmit their data, either via cables (owned or hired) or over an encrypted internet connection, to the SDC CCTV control room. This data can be shared by operators, with Police, in real time, via two police monitors (i.e. screens which mirror their feed to the Police)[2].

The majority of these 144 cameras have Pan Tilt and Zoom (PTZ) capacity, meaning they can be directed over a wide range of angles (often 360 degrees) as well as being able to zoom in or out considerably.

The system's structure dates back to 1997 when Central Government funding was provided to encourage camera systems nationwide, though most of the original cameras have subsequently been replaced. The number of cameras has also grown by around 50% since that time, and the technical capability of each camera is, in most cases, significantly greater, in both resolution and PTZ capacity. This has sometimes allowed one camera to replace two.

SDC does not use facial recognition on its systems, and no backup of the bulk data is kept. Data which has not been marked for preservation is delegated after 31 days.

While some cameras only see in the visible spectrum, the CCTV manager reports that most also have infrared sensitivity, no part of the CCTV system undertakes audio recording which is not allowed under the CCTV code of conduct.

Official figures show the financial cost of the system[3] is four hundred and fifteen thousand pound per year (£415,000 p.a.) net and four hundred and seventy five thousand pounds per year (£475,000 p.a.) gross (i.e. another council pays us £60,000 p.a. for our CCTV operators to man their out of hours telephone line). The service has 7 full time members of staff.

Closed Circuit Television (CCTV)

For historical reasons we often talk about "CCTV" cameras, a term, presumably coined because "closed circuit" was somewhat reassuring to those with privacy concerns.

There are some who would argue for the correctness of this term today by saying that there is no upper limit on the size of a "closed" circuit and who would, therefore, be happy to call, for example, the national ANPR network a "closed circuit" spanning the entirety of Great Britain.

However, most of us would, I suspect, think this usage of "closed" stretches the meaning somewhat. We would probably only recognise a few of SDC's cameras, those in the Dunbrik storeroom, as "closed circuit" in any meaningful sense. The rest are centrally controlled from the basement of the Council's offices in Argyle Road, meaning that our "C"CTV is a network spanning over a 20 mile diameter.

Arguably we should not, therefore, continue to use the term "CCTV" and instead simply use the term "surveillance camera", or "networked camera".

We will, nonetheless, continue to use the term "CCTV", or just "cameras" throughout the rest of this report.

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[1] Data correct as per November 2019 (actually we think it is correct as of today also, but will need to confirm this prior to publication of the final report)
[2] At any given time something will normally be being played over this link.
[3] Appendix 1 contains a breakdown of costs (actual and budgeted) for 2019/20, as well as budgeted costs for 2020/21

(Types of) Camera Locations

It is helpful to break down the 144 cameras into three <u>overlapping</u> categories which happen to be nearly equal in numerical size[4]. These are: Town Centre Cameras, Cameras in Car Parks owned by SDC, and Cameras observing Council property:

Categories of Camera

Town
Centre
Systems

Car Park
Cameras

Council Buildings
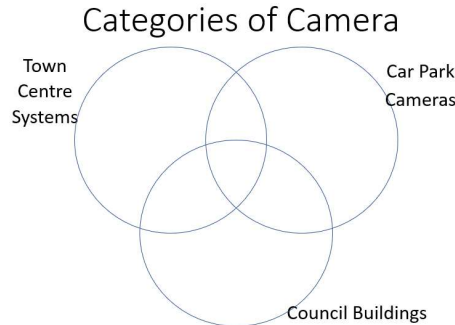
More information on these overlapping categories

Town Centre Cameras

There are five "Town Centre" camera systems. These are in:

Sevenoaks Town

Swanley

New Ash Green

Edenbridge

and   Westerham.[5]

These are the cameras which are most heavily monitored in real time.

They are probably the most significant category in terms of privacy impact (on the general public, as opposed to SDC employees).

The operation of these cameras also represent the main financial cost of the system, in terms of officer time spent monitoring them, and they are the cameras which the system's structure is built around (i.e. without at least one town centre system no one would suggest, for example, having a CCTV control room staffed through the night).

Car Park Cameras

A number of SDC owned car parks have CCTV. Most of these cameras are in Sevenoaks Town, including 22 in Buckhurst car park and a similar number in other Sevenoaks car parks.

A major privacy impact of car park cameras is that they keep a record (routinely for 31 days) of people's movements, in a way that is highly searchable – even when this is not automated checking number plates is a lot easier than checking faces.

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[4] Roughly 48 in each category, although, especially within Sevenoaks itself, there may be cameras which observe council building as well as public land, or which observe pedestrianised areas as well as car parks. The precise position of a camera is, therefore, generally less important than the cameras field of view.

[5] Maps of town centre camera locations are publicly available, though not desperately easy to find, the final report will contain a link to these and/or a copy of the maps in an appendix.

One recent example of this is our cameras being used to place a vehicle in Lullingstone Car park as part of a high profile recent criminal inquiry. This was an undoubtedly positive outcome, so it cannot be denied that collecting very large amounts of data about the movements of mostly innocent people will sometimes allow you to catch criminals.

A question for members, of course, will be whether monitoring all movements of all vehicles in and out of numerous car parks over the course of 24 years was a proportionate level of surveillance to achieve this.

Automated Number Plate Recognition (ANPR) can be used to extract very rich mass data sets from cameras without much human intervention, though, to the best of our knowledge, the only ANPR software used on our systems is in connection with a camera at the Dunbrik depot.

To underline the overlapping nature of these categories, cameras in relatively open car parks, or at entrances and exits to car parks, can function in the same way as Town Centre cameras to monitor pedestrians (this is especially the case with PTZ cameras).

Cameras monitoring the Council's own buildings

These include the Council's building in Sevenoaks itself, cameras at Dunbrik, and at Swanley White Oak Leisure centre (both the car park and publicly accessible indoor areas).

There are also cameras which monitor the office of the Dunbrik manager and the CCTV control manager, though these are not fully integrated into the networked system.

This is a complete overview of where our cameras are located, according to the written information we have received[6].

Camera Numbers, Privacy Impact and Efficacy

One of the first questions people often ask about any CCTV system is how many cameras there are in total, or in a particular location. While this is clearly a useful number to know in rough terms, there is a clear danger in thinking that numbers of cameras can easily quantify the privacy impact of a camera system.

To take an obvious example, consider a large multi-storey car park which could be fitted with no cameras, 2 cameras, or 22 cameras.

Clearly 22 cameras has a significant privacy impact relative to having zero cameras. But consider the privacy impact of just two cameras recording the number plates (and hence time of entry/egress) of every car entering or leaving a car park. Very few people would suggest that these two cameras had less than 10% of the privacy impact that the 22 would have.

Clearly some drivers would prefer to have full privacy while others would prefer cameras to be present, perceiving that this mitigates the small risk of car crime. However, the idea that privacy impact of public space CCTV can be quantified by reference mainly to the total the number of cameras is a commonly made, and unhelpful, tacit assumption.

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[6] In the full report we would like to attach information showing the details of the districts 144 CCTV camera locations, but this should, properly, be discussed before being attached, so it is not in this draft.

Monitoring schedule

The control room is currently manned 152 hours per week (i.e. there are 16 hours when it is not manned), according to the following schedule:

CCTV control room manning (current schedule)

Time Day	0000 - 0900	0900 - 1300	1300 - 0000
Monday	yes	yes	yes
Tuesday	yes	no	yes
Wednesday	yes	no	yes
Thursday	yes	no	yes
Friday	yes	no	yes
Saturday	yes	yes	yes
Sunday	yes	yes	yes

yes = manned   no = unmanned

Because the control room staff are present throughout the night, at weekends, and on Bank Holiday Mondays, they also answer the out-of-hours telephone line for the council.

Method and Findings:

1. Paper based enquiries

2. Cllr. Pender's visit to the control room

3. Examination of exemplar footage provided by the CCTV service.

4. Report of Dr. Emmeline Taylor, criminologist at City University.

     A copy of her report is appended to this interim report. It looks to try and evaluate the evidence for cameras deterring crime and whether it displaces criminal activity (e.g. to other places).

5. Discussions with police

     Discussions with Chief Inspector Jon Kirby at scrutiny committee

     Correspondence with Mathew Scott (in respect of a Police financial contribution)

     Evidence of Acting Chief Constable Mark Stubberfield

6. Discussions with CCTV control room manager

7. Query about costs (Police)

8. Query about costs (attachment to prosecutions)

Recommendations

TBC

Appendix 1:   Briefing Note on the financial costs of the service.

The following shows the actual cost and budget for the financial year 2019/20 and the budget for the financial year 2020/21.

	19/20 Actuals £	19/20 Budget £	20/21 Budget £
Direct Costs			
Staffing Cost (Including Pension and NI)	222,322.63	227,634.21	228,508.00
Running Costs	19,510.29	15,401.00	16,092.00
CCTV Control Room Costs	75,344.63	107,753.00	90,178.00
Income from Partners	- 44,935.00	- 85,564.00	- 57,674.00
Net Direct Cost	272,242.55	265,224.21	277,104.00
Recharges			
Support Services	75,350.83	72,772.00	79,878.00
Asset Maintenance Recharge	19,778.84	24,867.00	28,095.00
Capital Charges	5,443.00	29,947.00	29,947.00
Total Recharges	100,572.67	127,586.00	137,920.00
Total Net Revenue Cost	372,815.22	392,810.21	415,024.00
Capital Costs (CCTV Equipment)	19,031.37	20,000.00	0

The staffing cost is based on 7 FTE's (1 manager and 6 CCTV operatives.) Income from partners comes from agreements with Tunbridge Wells BC and Tonbridge and Malling BC.

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Understanding the effectiveness of CCTV: Displacement, Deterrence and Detection

An overview of research prepared for Sevenoaks District Council
June 2020

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Introduction.

Upon invitation by Councillor George Pender, this document has been prepared to provide a overview of research on closed circuit television (CCTV). The remit is to provide an overview of academic and other credible research into the effectiveness of CCTV, taking into account the privacy implications and alternative crime control measures. Dr Emmeline Taylor, Associate Professor in the Department of Sociology, at City, University of London, has prepared the document and has received no remuneration or other incentive to do so.

The following should be read with the caveat that as visual surveillance technologies have become hugely diversified – to include aerial drones, body-worn cameras, and dashcams, as well as incorporating sophisticated features such as live facial recognition, etc., the intensity of academic research on the role and effectiveness of CCTV (particularly council owned and/or operated CCTV) has reduced. As such, findings from studies are now somewhat dated.

What is CCTV ?

Discussion about 'CCTV' often proceeds as if all systems are large the same with similar design, operation and management, but in reality CCTV systems differ hugely to the point that no two are identical. CCTV systems vary greatly from basic schemes, involving a handful of cameras without any ongoing monitoring, to complex integrated networks that can feature automatic zoom, night vision, facial recognition, thermal imaging, automatic number plate recognition (ANPR), tracking devices, 'talking' cameras and so on that are monitored continuously. Many systems have now shifted from analogue to digital which has not only changed the way CCTV is operated but also altered its characteristics, providing for higher resolution and frame rates, improved retrievability and increased data retention periods due to greater storage capacity. A

new generation of 'intelligent' or 'smart' cameras, combining visual surveillance with biometrics, for example, is demanding a reconsideration of what CCTV is, whether it 'works' and what the implications are for intruding on personal freedoms. Concurrent to technological advances, an evidence-base is emerging about how CCTV functions. This is informing system design and the conditions under which CCTV is operated (such as improved lighting, the position and number of cameras and quality of image).

A 3D vision of CCTV: Deterrence, Displacement and Detection

It is a pertinent time to reflect upon the use of CCTV. As some areas withdraw funding from their CCTV systems, others are expanding coverage and upgrading to Intelligent CCTV (ICCTV) or 'smart' CCTV supplemented with facial recognition and a range of other capabilities.

The evaluation of CCTV has produced mixed and what often appear to be contradictory findings. There is now a range of studies of the effectiveness of CCTV in different countries and in different settings, and it is only possible to highlight some of the key elements which impact on effectiveness here. However, it is important to stress that there have been relatively few independent evaluations by professional researchers, and many scholars believe the quality of the 'evidence' demonstrating efficacy to be poor. In light of this, a number of systematic reviews have been undertaken to draw together a meta-analysis of evaluations that meet certain prescribed criteria, usually those adhering to a pre-test/post-test control group design. In 2002, a systematic review was produced synthesizing the findings from 22 studies on the effectiveness of CCTV across three main settings: city centres, public transport and car parks. The impact that the CCTV systems had on crime was summarised as follows:

Half (11) found a desirable effect on crime and five found an undesirable effect on crime. Five evaluations found a null effect on crime (i.e., clear evidence of no effect), while the remaining one was classified as finding an uncertain effect on crime (i.e., unclear evidence of an effect).[1]

It is evident that the findings from the meta-analysis were clearly inconclusive, similar to previous reviews that had also reported mixed findings. In 2008, Welsh and Farrington conducted a further systematic review, this time including 44 evaluations of CCTV. They provided the following overview:

The results suggest that CCTV caused a modest (16%) but significant decrease in crime in experimental areas compared with control areas ... largely driven by the effectiveness of CCTV schemes in car parks ... Schemes in most other public settings had small and nonsignificant effects on crime.[2]

While useful for providing an insight into effectiveness, the reviews do little to assist in understanding *why* CCTV can be effective in some contexts but only have limited, if any, impact in others. In practice, there are a number of ways in which CCTV can work; that is, there are a variety of ways in which it can be considered effective or not effective. Understanding the effectiveness of CCTV can be usefully understood using the '3D model' which examines the deterrence, displacement and detection of CCTV systems.

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[1] Welsh, B.C. and Farrington, D.P. (2002) *Crime Prevention Effects of Closed Circuit Television: A Systematic Review*. Home Office Research Study 252. Home Office Research, Development and Statistics Directorate.

[2] Welsh, B.C. and Farrington, D P. (2008). *Effects of Closed Circuit Television Surveillance on Crime*. The Cambell Collaboration. London. The full report can be downloaded here: https://onlinelibrary.wiley.com/doi/10.4073/csr.2008.17

Deterrence

Deterrence refers to the potential for CCTV to prevent a criminal act from taking place. Quite simply the idea is that a would-be offender decides not to commit a criminal act because there is a CCTV camera in the vicinity and the individual perceives it to heighten the risk sufficiently.

The crux of the deterrence capability lies in the claim that offenders are rational beings that weigh up the benefits and risks of committing crime. If CCTV is interpreted as a risk that cannot be easily overcome, it might prevent a crime from taking place in that location.

Research has shown that CCTV is least effective at deterring violent crimes. Although comparatively rare, it is these crimes that the public report being most fearful of. So called 'expressive crimes', particularly those involving drugs or alcohol, are unlikely to be prevented by cameras because offenders are not in a rational mindset. CCTV can impact on premeditated crimes that involve a certain level of cognition and thought process, usually property crimes, but many studies report that offenders are not overly concerned about the threat presented by CCTV because they believe they can easily evade it.

Clearly the potential for deterrence, and the ability of CCTV to increase feelings of safety amongst the public, is predicated on both offenders and members of the public actually knowing that CCTV is in operation in the first place. In all likelihood those with criminal intention, particularly rational offenders, will have heightened awareness of the cameras as they will feature in their weighing up of the benefits and risks of their chosen offence. Moreover, even when they are aware of the cameras they need to believe that they represent a threat, and even some serious offenders don't view them as a major risk; some thieves for example note that stealing regularly and rarely being caught is an indication that cameras are a risk than can mostly be managed. The key

finding from research with offenders is that CCTV is much more of a threat if it is associated with a police or other security response.

Another important dimension to the deterrence capability is that it is vulnerable to changes over time. Initial deterrence can wane, particularly as offenders familiarise themselves with the location of the cameras and operation of the system, and especially as crimes go undetected or are not followed up.

Detection

Detection refers to the use of CCTV footage after the event has taken place – either bringing an otherwise unreported incident to attention or the footage is used to aide investigations.

It has been argued that since the London bombings in July 2005, the role of CCTV has shifted from being primarily deterrence to data and intelligence gathering. Under some circumstances footage can be used to aide investigations, identify offenders, eliminate suspects and seek witnesses. However, its capabilities as a crime detection tool should not be overstated as many crimes are not solved as a direct result of CCTV, even when relatively clear footage exists. Returning to the idea of rational criminals, offenders can simply evade detection by wearing hats, scarves, glasses; interfering with the cameras; or even damaging them so that they are no longer operable. On the plus side using CCTV as a reactive forensic tool is cheaper as it avoids expensive monitoring costs.

Displacement

Displacement refers to when the introduction of situational crime prevention measures (e.g. lighting, CCTV, alley gates) in one location simply moves the crime problem to another, nearby location.

The displacement of crime has been a pervasive concern in relation to situational crime prevention measures; this centres on the danger that rather than prevent crime it merely moves it and sometimes to less protected targets in poorer areas. Criminologists have long noted that displacement can take a variety of forms, including:

- Spatial/Geographical Displacement—the same crime is moved from one location to another.
- Temporal Displacement—the same crime in the same area but committed at a different time.
- Tactical Displacement—the offender uses new means (modus operandi) to commit the same offence.
- Target Displacement—offenders choose a different type of victim within the same area.
- Functional Displacement—offenders change from one type of crime to another, for example from burglary to robbery.
- Perpetrator Displacement—occurs where a crime opportunity is so compelling that even if one person passes it by, others are available to take their place.

Determining whether displacement has occurred is not straightforward. A large problem is that various studies have used different measurements on different types of cameras in different contexts make generalising unwise. Indeed, although early work on CCTV pointed to evidence of crime displacement the outcome from more recent studies is far from conclusive, for example:

> CCTV can spatially displace crime but it does not do so frequently or universally across offence types or space. (Waples et al., 2009: 221)

> There was no or minimal crime displacement in the surrounding area caused by CCTV operation. (Hyeon Ho Park et al., 2012: 190)

> Displacement is directly caused by the installation of the video cameras and not by other factors, since criminal activity has barely changed on the streets that are further away, that is, those in the control area with similar characteristics to the streets adjacent to the area controlled by video cameras in the experimental area. (Cerezo, 2013: 234)[3]

The evidence, inconclusive as it is, suggests that CCTV may well displace crime, and taking account of this possibility is an important element in the design and operation of any CCTV scheme.

There is one other point on this issue, and that is that sometimes rather than displacement there can be a diffusion of benefits, that is the fact that there are cameras in one area can mean benefits accrue in other areas. Here too there is a need to note that findings are likely to be affected by a range of characteristics of context but the possibility of diffusion is a real one.

Disinvestment and the cost of CCTV

In recent years, there has been a disinvestment in some CCTV systems or a substantive change in their mode of operation. For example, Freedom of Information requests responded to by 209 of 326 local authorities in England found that 46 councils reported a reduction in the number of CCTV cameras in operation since 2010. According to the figures, the Craven District Council in North Yorkshire no longer has any CCTV cameras

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[3] Waples, S., Gill, M. and Fisher, P. (2009). CCTV and Displacement: Evidence from a National Evaluation. *Criminology and Criminal Justice*, 9(2), May, 207–224.
Hyeon, H.P., Gyeong, S.O. and Seung, Y. (2012). Measuring the Crime Displacement and Diffusion Effects of Open Street CCTV in South Korea. *International Journal of Law, Crime and Justice*, 40(3), September 2012, 179–191.
Cerezo, A. (2013). CCTV and Crime Displacement: A Quasi-experimental Evaluation. *European Journal of Criminology*, 10(2), 222–236.

under its jurisdiction, a reduction from seven in 2010. In Trafford, Greater Manchester, there was a 53% reduction, from 245 cameras in 2010 to 115 in 2013. The third-highest cut was 48% in Blackpool, from 151 cameras to 79.[4]

The vast majority of cameras are privately owned and operated; the BSIA (2013) estimates that just 1 camera in 70 is state owned and so some Local Authorities are opting to rely on the large-scale provision of private systems rather than spend on their own. Some view the amount of private CCTV cameras positively and welcome the additional security function provided by the private sector, whereas others believe the use of CCTV by private entities raises serious issues of regulation and accountability regarding the processing of personal data.

The ongoing costs of CCTV are likely to also form part of the reasons underpinning disinvestment. CCTV is not cheap. In the United Kingdom, it has been estimated that more than £250 million of public money was spent on CCTV over the ten-year period of 1992 to 2002, but this is likely to be a gross underestimate. Government funding was mostly dedicated to the purchase of equipment and infrastructure, and it was largely left to local governments (and to a lesser extent the police) to support substantial ongoing expenditure to operate, monitor, maintain and upgrade systems. Drawing upon a range of available data, Norris et al. (2004: 112) estimated that over the decade 1994–2004 'around £4–5 Billion has been spent on the installation of CCTV and maintenance of CCTV systems in the UK, and this excludes the monitoring costs associated with these systems'.

Recognising that one of the main costs of CCTV is monitoring staff, some areas have switched to recording rather than proactively monitoring live camera images. The footage is then only accessed if an incident is detected by another means. This development is stimulating growth in products that can automate the detection of

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[4] Merrick, J. and Dugan, E. (2013). Watch Out – Fewer CCTV Cameras about. *The Independent*. Accessed November 11, 2013, from www.independent.co.uk/news/uk/home-news/watch-out--fewer-cctv-cameras-about-8527928.html

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suspicious behaviour. Some believe that this will have a negative impact on effectiveness, whereas others perceive it to be a more efficient use of resources.

Conclusion

Research has begun to untangle the capabilities and limitations of CCTV, and many studies have been important in offering new insights and understanding about how CCTV works and the impact it can have. However, at present, research has neither kept pace with the changing technological possibilities nor tried to seriously take account of them. This limits the ability to be precise about how CCTV can best be deployed to optimize effectiveness while safeguarding privacy and civil liberties. Despite the mass of studies that have been undertaken, we still know relatively little about when and how CCTV works best. Indeed, some of the initial research questions, including, for example, whether CCTV is a deterrent against crime, whether CCTV poses a serious impediment to offenders of common offences, whether CCTV makes people safer, whether CCTV is more effective than the alternatives on a range of criteria, determining the types of measures that best complement CCTV, and the extent to which CCTV poses dangers to civil liberties are still largely unknown, and not least for different types of CCTV systems. As such, arguments for and against CCTV are based on limited evidence.

It is important to chart the progress of security cameras. A key area of growth over the next decade will be in the peripheral products that can be used alongside standard visual systems to aid analytics. Many new types of cameras are emerging, including at the time of writing, different types of point-of-view (POV) or body-worn cameras which are affixed to the head or chest to monitor, for example, interactions between the public and police. Facial recognition is becoming more sophisticated and mainstream, as are cameras with audio capabilities that can record conversations as well as images. Increasingly aerial surveillance from unmanned aerial vehicles (UAVs), commonly referred to as 'drones' is generating new concerns about the ethical

operation of cameras and the personal freedoms they impede. Moving forward CCTV is likely to remain a part of the security landscape. However, despite the huge appetite that appears to remain for visual surveillance, the effectiveness of CCTV should never be taken for granted.

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