Surveillance cameras will soon be unrecognizable

June 18 2019, by William Webster

Camera never lies. Credit: sdecoret

It is often [argued](#) that [the UK is the most surveilled](#) country on the planet. This may or may not have been the case in the past but there are [certainly now](#) millions of surveillance cameras in public spaces—not to mention private buildings and homes. Behind those lenses they are changing in ways that people are often barely aware of, with privacy implications that should be widely discussed as a matter of urgency.

[Automatic face recognition](#) is currently the hot ticket in this industry, having been introduced in a number of cities around the world, in the [US](#), [China](#), [Germany](#) and [Singapore](#). The police argue that piloting such systems has allowed them to test the technology to help identify potential terrorists and other known offenders. Yet this has to be weighed against different concerns. The broadest is our expectation of privacy and anonymity in public places—and whether this is a step too far towards our every move being visible to the state.

Then there is the question of how well these face recognition systems work at present. Their [success rate](#) at recognising faces [has been](#) shown to be as low as 2%. Linked to this is an inbuilt bias within the software that makes the technology [far less accurate](#) at [identifying](#) darker skinned people and women. It therefore has the potential to exacerbate tensions between ethnic minorities and the police.

This could be compounded by another contentious issue, which is the police using so-called "watch list" databases of [faces](#) against which it is trying to match live images. Typically these databases include policing images of people taken in custody, who may never have been convicted of a crime and are unlikely to have consented to their data being used in this way.

For these reasons the use of automatic face recognition software has been very controversial, and until the technology is more reliable we should probably be very cautious in how we use it. There have been two significant pilots in the UK in recent times, in the [south of Wales](#) and in [London](#). Both are the subject of judicial review actions, brought respectively by civil liberties organisations [Liberty](#) and [Big Brother Watch](#), which are due to conclude in the coming months.

In the US, meanwhile, the city of San Francisco [banned](#) the use of face recognition in its public systems in May. Other American cities are

expected to follow suit—with face recognition software currently being used in the likes of Chicago, New York and Detroit. The technology has also generated much debate in Canada, where it is in use in Toronto and some other cities.

Tomorrow's world

Face recognition highlights bigger questions around which types of surveillance cameras and systems are acceptable to society. This question is complicated by the fact that surveillance cameras are becoming more sophisticated and computerised without necessarily looking much different. There is no signage or information that tells us about their enhanced capabilities, which means the activities behind them become less transparent.

As the technology has been miniaturised and costs have fallen, new types of cameras have emerged, including [body-worn video devices](), [drones](), [dash]() and [head cams](). At the same time, imaging and recording techniques have become more and more standardised. This has allowed for greater connectivity between systems and has raised quality to the point that images can be trustworthy evidence in legal proceedings.

Besides face recognition, we are seeing the emergence of cameras [capable of]() object tracking and recognition, plus advances in [noise]() or [smell]() analysis. Police forces in the US and UK [have been]() trialling systems that predict how likely individuals are to commit a crime. It is all a quantum leap away from the old CCTV cameras with which we are familiar.

Governance and regulation is having to evolve quickly to keep abreast of this environment. To this end, surveillance cameras in England and Wales are now regulated by the specialist office of the [Surveillance Camera Commissioner](); along with the [Information Commissioner's Office](), which has responsibility for overseeing data protection in the UK. Also relevant to the use of face recognition systems is the [Office of the Birometrics Commissioner]().

Surveillance Camera Day

Most surveys [suggest that]() the public are in favour of basic CCTV cameras, but the question for those who set the rules is whether citizens would still support these systems if they knew what they were becoming capable of. Judging by [most reactions]() in the media to face [recognition](), it

seems not.

I suspect that most of the advances in technology could be used to improve the system if they were regulated properly, but cameras must be seen to be delivered in the interests of society and with the support of voters. So where should policymakers draw a line in the sand?

To help with this, a world first is about to take place in the UK on June 20: Surveillance Camera Day. This is not intended to be a celebration of surveillance cameras but to allow people to influence how they develop by raising awareness about their capabilities, merits and consequences. It will include everything from open days at a number of CCTV control centres to public factsheets to discussions in the media. Everyone can contribute to the conversation through #cameraday2019.

The direction of travel for surveillance cameras does not need to be towards a defined technological determinism where it inevitably becomes more and more intrusive. Surveillance Camera Day represents an opportunity for everyone to help shape the discussion. It will be interesting to observe how the general public and other players respond.

This article is republished from The Conversation under a Creative Commons license. Read the original article.

Provided by The Conversation