

Policing in England and Wales

Future Operating Environment 2040



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Executive summary

The world of 2040 will be very different to the world of today. Over the next 20 years, current and future trends will converge at a rapid rate to increase the number and complexity of issues facing policing. Some of these issues, such as terrorism, cyberattacks and climate change, could give rise to severe and imminent disruption. Other issues, such as demographic change and the growing influence of non-state actors, will develop more slowly but in ways that are no less consequential. While emerging technologies such as artificial intelligence, robotics, biotechnology and quantum computing will connect and empower people like never before, trends such as nationalism, rising inequality and increasingly resonant disinformation could cause societies to become more divided.

The cumulative effect of these changes for policing is a strategic challenge that requires a strategic response – a response underpinned by foresight, innovation and agile adaptation. To meet the challenges and demands of the next 20 years, policing will need to get better at anticipating emerging threats, think more innovatively about the best policies and interventions for addressing them and mobilise responses quickly to maximise chances of success. ‘Policing in England and Wales: Future Operating Environment (FOE) 2040’ aims to support this response by providing an insight into policing’s future operating environment, exploring those aspects of the future that policing should consider now if it is to think, act and invest with long-term strategic intent.

In producing FOE 2040 we have engaged with more than 80 people from across and beyond policing. We have conducted interviews with stakeholders, analysed ‘futures’ reports from leading organisations and engaged police officers, crime analysts, social scientists, ‘futurists’ and technologists in a scenario-based analysis of how policing’s operating environment might develop out to 2040. Analysis of this work has led us to identify:

- **Ten trends** driving and defining the future of policing’s operating environment out to 2040. These trends were identified by stakeholders as being the most consequential for policing over the next 20 years.
- **Four scenarios** for policing’s future operating environment. A limitation of an exclusively trend-based analysis is that it can give too linear a view of the future, causing us to overlook potential shocks, surprises and disruptions (eg, a pandemic). By forcing us to consider how – and why – things could become better, worse or broadly stay the same, scenarios increase our preparedness for the range of possibilities the future may hold.
- **Five future challenges** which require policing’s attention today. Each challenge will take up an increasing amount of policing’s ‘bandwidth’ over the next 20 years, adding new layers of complexity to existing demands and raising important questions about how policing is organised, resourced and governed.

We present these outputs as strategic planning resources which can be used to inform the development of long-term plans, strategies, policies and capabilities. To support this use we have produced a user guide for those who want to:

- **Inform** future vision or high-level strategy, to ensure that priorities and objectives are rooted in a better understanding of the potential risks, challenges and opportunities that could arise in the future.
- **Stress-test** how well the assumptions which underpin a given plan or policy stand up to a range of external conditions.
- **Assess** the potential strengths and weaknesses of different strategic objectives or policy options.
- **‘Future proof’** planned investments or other decisions that are under consideration to ensure that potential risks and unintended consequences are identified and considered as part of overall risk management.

By exploring how policing’s operating environment might change out to 2040, our goal is to identify new threats, challenges and opportunities that police officers 10 or 20 years from now would wish had been noticed – and acted on – earlier. Ultimately, in a profession that tends towards being reactive and responsive, we hope this report can help police leaders identify what action should be taken now to prepare policing for the challenges that lie ahead.



Trends

Rising inequality and social fragmentation. As well as becoming more unequal in socio-economic terms, the UK is becoming increasingly polarised and tribal in its beliefs, values and behaviours. In the period to 2040, there is an enduring, perhaps increasing, risk that existing fault lines could become more pronounced and that extreme or violent ideologies could start to take hold.

An expanding and unregulated information space. The manipulation of information online is emerging as a major threat to public life. With advances in technology creating new opportunities for mass manipulation, efforts to create and spread false, misleading or abusive information online will continue to evolve out to 2040.

A changing trust landscape. The digital era has ushered in new technologies which both undermine and allow people to sidestep existing actors, institutions and systems. Emerging technologies are likely to accelerate and deepen this shift over the next 20 years.

Technological change and convergence. Emerging technologies are evolving rapidly, fuelled by extreme connectivity and growing volumes of real-time, real-world data. As well as solving problems of increasing complexity, many of these technologies could increase the risk of societal upheaval, political grievances and citizen pushback.

Harnessing artificial intelligence. AI could be the most transformative technology of the next 20 years, improving the ability of machines to act intelligently, autonomously and in some cases unethically. The widespread use of AI will pose a fundamental challenge to organisations, economies and cultures.

Workforce automation. Technological advances could cause large swathes of work to become automated over the next 20 years. As automation spreads, employers, societies and economies will need to grapple with basic and deeply entrenched ideas about work, income and human purpose.

A larger, older, more diverse population. By 2040, the UK population will be larger, older and more diverse. As well as increasing demand on public services, demographic change will reshape the UK's political, financial and social priorities, necessitating tough choices and trade-offs.

Economic transitions. The global economy is becoming more fragile as globalisation evolves and economic power shifts eastwards. In the UK, the combination of low productivity, an ageing workforce and post-Brexit uncertainty point towards a period of volatility and low growth, with implications for public finances.

Growing influence of non-state actors. By building the infrastructure of the future and strengthening their ability to act in consequential ways, non-state actors could undermine some of the levers that nation states rely on to grow their economies, protect their borders and ensure the security of their people.

Climate change, environmental decline and competition for resources. Global warming is undermining the peace, security and wellbeing of millions of people worldwide. As well as driving demands for more effective state action, these developments will have a growing impact on many aspects of people's lives and livelihoods, including the potential for unrest.

The bottom line

These trends will drive and define the character of policing's operating environment over the next 20 years. While it can be useful to think about the impact of each trend individually, it is the convergence of different trends, often in unforeseen ways, that will shape policing's future strategic context. Readers should consider how the intersection of different trends might interact to create new impacts and implications for policing.

Scenarios

Fragile Seams

This scenario **explores** a world growing increasingly fragile in the face of rising inequality, global warming and disruptive technologies. The scenario **highlights** the difficulties in responding to future demands for security (both virtual and physical) as societal tensions increase, new technologies create

new threats and efforts to tackle divisive issues make limited headway. The scenario **underscores** the difficult choices policing might face in the context of global and domestic conditions that cause inequalities to widen, crime levels to increase and climate change to become increasingly disruptive.

Pandora's Box

This scenario **explores** a shock prone world in which economic and environmental disasters compound and feed each other, pushing the economy into recession, putting the social contract under strain and creating favourable conditions for criminals. The scenario **highlights** the

possible consequences of systemic breakdown, including weak governance, widespread job loss and high levels of paranoia and mistrust. The scenario **emphasises** the pressure that such conditions would put on the police and highlights the choices that would either bring stability or exacerbate tensions.

Green Reset

This scenario **explores** the issues surrounding a restructuring of the global economy that leads to a more sustainable and equitable world. The scenario **describes** how a shift to post-materialist values, a more interventionist state and new modes of production and consumption

give rise to a new relationship between people and planet. The scenario **considers** the changing nature of the police role as this transition takes place, focusing on what new threats, challenges and demands might emerge and which old ones might recede.

Black Mirror

This scenario **explores** the emergence of a high-tech world characterised by mass surveillance and high-levels of technological convergence. The scenario **describes** how advances in 'next generation' technologies help to address some of society's most pressing problems but also increase

the power of technology companies in ways that some people find unacceptable. The scenario **considers** the benefits and risks of operating in an emerging surveillance society as well as the challenges of keeping pace with rapid technological advances.

The bottom line

These scenarios – and the demands and challenges they describe – are not necessarily mutually exclusive. The future that ultimately comes to pass will likely contain elements of all four scenarios. Considering each scenario fairly and fully (rather than picking a 'most likely') can

help ensure that the decisions we take today are rooted in a better understanding of the potential risks, challenges and opportunities that could arise in the future. Figure 1 describes the unique and common elements of the four scenarios.

Figure 1: unique and common elements of the scenarios

Fragile Seams

Moderate (but fragile) economic growth
Rising inequality
Crime rooted in entrenched socio-economic and cultural issues
Technological change out-paces regulation
Gradual but significant increase in demand on policing from climate change
Growing reach and influence of 'Big Tech'

Downturn in global trade
Smaller and more managed economy
Less inequality and pursuit of material affluence
Definition of national security incorporates public health and environmental protection
Increased focus on people and planet leads to new ethical limits that require policing
Technology is regulated with public interest in mind

Green Reset

Pandora's Box

Prolonged global recession
Frequent economic and environment crises with cascading impacts
Weak government finances
High levels of fear, mistrust and anger
Digital surveillance used repressively
Lack of international cooperation (including law enforcement)
Xenophobia and racism seen as more socially acceptable

Common elements

Climate change has an increasingly disruptive impact on many people's lives and livelihoods
Emerging technologies create novel and complex crimes
Greater volume and resonance of digital disinformation
Increases in the surveillance capabilities of citizens, states, private companies and criminal networks
Widespread use of AI and automation in most sectors
High levels of disruption to jobs, skills and business models
Growing reach and influence of 'Big Tech'
Significant challenges to police legitimacy

Digital economy drives economic prosperity
Emerging technologies solve some societal challenges
High levels of social and emotional dependency on technology

AI enables powerful surveillance and crime prevention tools
Unequal access to technology fuels inequality
'Big Tech' controls large parts of critical national infrastructure

Black Mirror

Challenges

1. Balancing the benefits and risks of artificial intelligence in an emerging surveillance society

Artificial intelligence (AI) has the potential to vastly improve policing's ability to prevent crime and improve public safety. Yet many of AI's use cases in policing require 'human profiling' systems which collect and interpret information on people's interests, behaviours, movements and physical characteristics in order to forecast future behaviour and inform decision-making.

Many of the technologies which make these profiling systems possible are likely to become more sophisticated over the next 20 years – potentially giving rise to new forms of 'deep' surveillance. Such developments could create a society where practical opportunities for maintaining privacy are limited and where access to information about people's lives could shape the balance of power in ways that some people find unacceptable. Those behind this surveillance, including the police, could find themselves in a situation where they know more about citizens than citizens know about themselves.

If policing is to strike the right balance between the benefits and risks of AI in an emerging surveillance society, it will need to work closely with citizens, government and private sector partners to develop a clear value proposition for the use of AI across all policing activities. With policing still in the early stages of its 'AI journey' there is ample opportunity for ethical frameworks and regulation to be developed up front. Focusing on what AI should do, not what it can do, will be critical to gaining public trust. The end result could be a 'good surveillance society' which delivers wide-ranging social benefits balanced against practical anonymity and a right to not be interfered with.

2. Policing digital disinformation

The use of disinformation to pollute online information environments and artificially shape public opinion is likely to grow in scale and sophistication over the next 20 years. As well as posing a threat to individuals and communities, the way in which disinformation can be used to manufacture consensus, create social tensions and blur the boundaries between 'real' and 'unreal' raises important issues for societies as well as those tasked with maintaining social order.

As the financial, psychological and societal harms caused by disinformation become more visible and widespread, calls for policing to play a more active role in its mitigation are likely to grow. As technologies such as 'deep fakes' become more attainable, what was once a threat to divulge embarrassing information to a victim's family, friends or colleagues could become a highly convincing campaign across multiple media to discredit someone in all aspects of their life. If as expected, tackling disinformation is going to involve a mix of public education, police action and private sector expertise, the question of how can this be organised and governed with public interest considerations in mind is a pressing one.

At the same time, policing may need to attend far more in the future to the ways in which rumours, conspiracy theories, fake news and propaganda, especially where they are spread in the midst or aftermath of a crisis, are used to create confusion and exacerbate social tensions. Designing and delivering interventions which not only diminish such processes but also enable positive counter-influences will be an important component of responding to future crises.

3. Building trust in a digital era

Many Western nations are experiencing chronically low levels of citizen trust in institutions. As well as suffering populist attacks on their relevance and accountability, many institutions have struggled to adapt to a digital world characterised by heightened transparency, the near-ubiquity of social media and the rapid rise of online platforms. While industrialisation required people to place their trust in central authorities such as banks, universities and government agencies, the digital era has ushered in new technologies which both undermine and allow people to sidestep these authorities. The result has been a shift in trust from centralised institutions to distributed technological systems. New technologies are likely to accelerate and deepen this shift over the next 20 years.

While trust in policing remains relatively high, this changing trust landscape is not an irrelevant backdrop, for it brings with it new characteristics and mechanisms that policing will need to better understand if it is to maintain public trust in the digital era. The challenge for policing is to navigate the digital revolution without losing its intimate connection with the public, to find new ways of cultivating public trust in a digital environment which is becoming increasingly complex, chaotic and confusing.

4. Shaping the future police workforce

Social and technological change will have a major impact on the police workforce over the next 20 years. Much of this change will be double-edged: as well as disrupting jobs and skills it will also provide opportunities to connect and empower the workforce like never before.

As new technologies develop and converge, many of the demands on policing will become increasingly novel and complex, necessitating a more adaptive workforce with a more diverse set of skills and knowledge. A key challenge will be blending advanced technical skills (eg, digital forensics) with interpersonal skills such as empathy, creativity and collaboration. At the same time, policing will also need to find new ways of connecting to the skills, expertise and resources that are available within a broader 'ecosystem' of partners, including volunteers, public services and private sector expertise. In an environment where few problems can be solved by the police alone, policing's effectiveness will increasingly depend on the value of its relationships with partners as well as its ability to 'orchestrate' these through effective leadership, communication and consensus building.

Building a workforce fit for the future will also require higher-purpose conversations about what policing will look like in the context of increasing automation. Artificial intelligence and other automation technologies will likely play a far more prominent role in policing over the next 20 years, but their use risks damaging workforce morale, motivation and wellbeing unless their integration is managed carefully. Building a workforce with the intellectual and psychological aptitude necessary to work in an increasingly automated environment will be an important part of preparing policing for the future.

5. Operating in conditions of increasing complexity

Over the past several decades change has become increasingly complex: in speed, interconnectedness and uncertainty of outcome.

This complexity brings with it new strategic risks and systemic challenges – challenges that are ‘knotty’ and difficult to address, such as migration, climate change and transnational organised crime.

This complexity poses a profound challenge to the adaptive capacity of policing’s current processes, structures and systems, which are essentially modelled on the early industrial period: vertical; hierarchical; fragmented; and bureaucratic. With existing structures in place, policing will continue to be hindered in its ability to anticipate emerging threats, spur new thinking about how best to address them and mobilise responses quickly to maximise chances of success.

Policing faces difficult choices about how to upgrade its processes, capabilities and governance structures to meet the challenges and opportunities of the 21st century – simply patching up or tinkering with existing processes or structures may not suffice. If policing is to meet the challenges and demands of the next 20 years (and beyond), it may need to explore radically different models of leadership, governance, citizen engagement and service delivery, potentially ceding sovereignty on a variety of issues to communities or private actors.

These challenges will take up an increasing amount of policing’s ‘bandwidth’ over the next 20 years, adding new layers of complexity to existing demands and raising important questions about how policing is organised, resourced and governed. Yet they are also challenges which can be met – so that threats are diminished and opportunities are capitalised on – if policing starts to prepare for them today.

Introduction

“This present moment used to be
the unimaginable future”

Stewart Brand¹

Reacting quickly to the unforeseen and the unpredictable will always be a distinguishing feature of modern policing. However, in a world of ever more frequent and disruptive change, policing must ensure that its ability to react is matched by its ability to anticipate and prepare for emerging challenges and opportunities. In the modern era, thinking about the future, about the impacts of possible or likely developments in our society, is a critical leadership role and responsibility.

It is with the importance of ‘futures’ thinking in mind that we have produced ‘Policing in England and Wales: Future Operating Environment 2040 (FOE 2040)’ – a report aimed at starting a conversation about what policing might need to do now to prepare for a range of possible future outcomes. If we are right in saying that the world of 2040 will be significantly different to the world today, then taking the time to imagine, explore and learn from possible futures is clearly valuable. Without making predictions or offering solutions, FOE 2040 examines those aspects of the future that policing should consider now if it is to think, act and invest with long-term strategic intent.

Who is FOE 2040 for?

FOE 2040 is aimed at those in policing who develop long-term plans and strategies. By exploring how policing’s operating environment might change out to 2040, our aim is to identify new threats, challenges and opportunities that police officers 10 or 20 years from now would have wished had

been noticed – and acted on – earlier. In doing so, we hope to provide policing with a resource for thinking about the future, whatever it may hold, more strategically.

Why is this report needed?

As the complexity and rate of change in our environment increases so the quality of our strategic analyses must follow suit. In the modern era, focusing on the short-term, on the latest news round or political cycle, is a source of vulnerability. Only by extending our frame of reference in time and considering how things might change over the long-term can we effectively prepare for what is coming over the horizon.

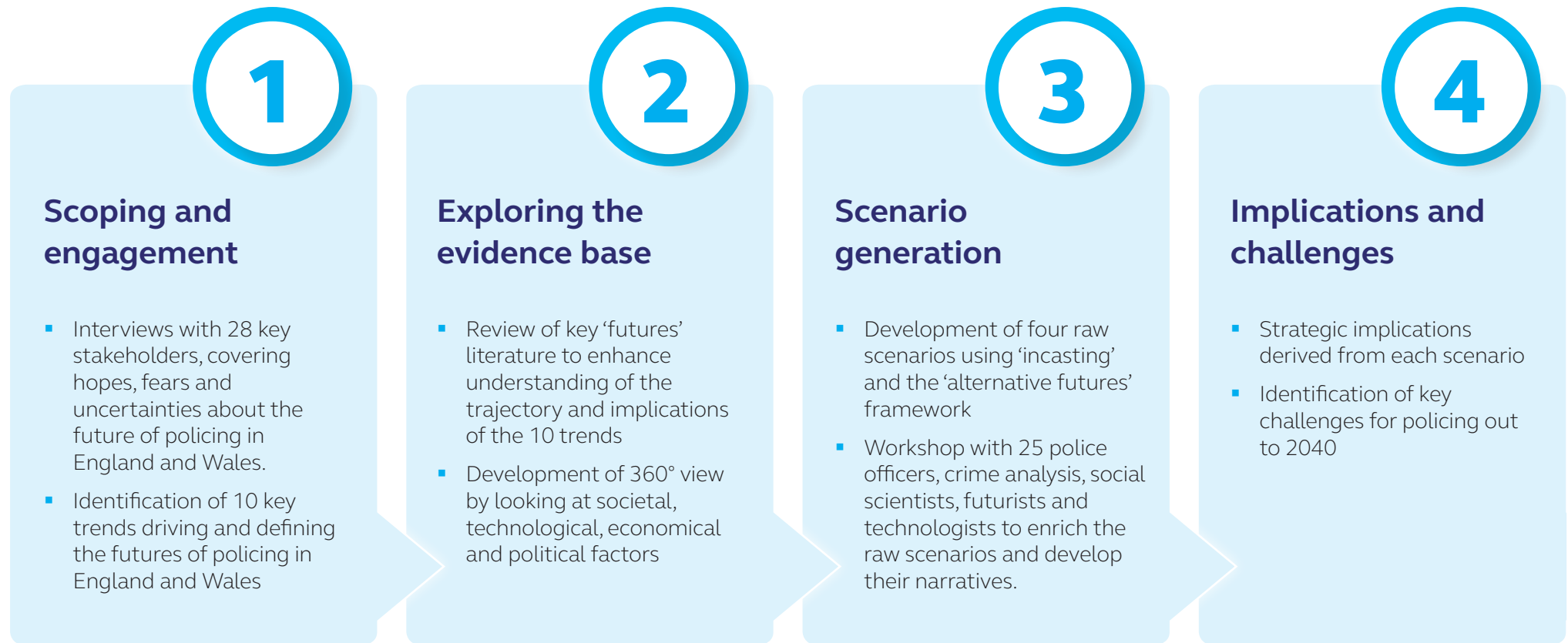
In a world characterised by rapid change, increasing complexity and a significant probability of major shocks and surprises (eg, a pandemic), looking ahead to 2040 is as difficult as it is necessary. But while it is true to say that we will never be able to produce an entirely accurate or complete picture of the future, it is possible to develop an understanding of what different futures might look like, how they might affect our work and what we can do now to prepare for them.

Taking the long view: looking forward to 2040

To better understand what might be the future threats, challenges and opportunities facing policing out to 2040, this report uses ‘futures thinking’ – a structured method for reflecting on the trends, value shifts, technological developments and socio-economic structures that could occur in the next 10, 20 or more years’ in all areas of social life. Figure 2 describes our method:

¹ Brand, S (2000) Clock of the Long Now: Time and Responsibility.

Figure 2: Exploring policing's operating environment out to 2040



Futures thinking won't tell us what is going to happen in twenty years' time – nothing will. But it can help us paint a picture of a world that could plausibly happen, in a way that will challenge us to think about what that world would mean for our current goals, plans and strategies.



Structure of the report

The report is set out in three main parts:

- **Part 1:** Ten trends identified as driving and defining the future of policing's operating environment out to 2040. These trends were chosen from a list of 16 'megatrends' compiled by the Ministry of Defence in its sixth edition of Global Strategic Trends². Stakeholders from across and beyond policing scored each of the 16 trends in terms of their importance for policing over the next 20 years.
- **Part 2:** Four scenarios for policing's future operating environment, developed during a workshop attended by police officers, crime analysts, social scientists, 'futurists' and technologists.
- **Part 3:** Five future challenges which require policing's attention today. The challenges were developed by drawing together: key themes from the stakeholder interviews; common issues underlying the 10 trends; key findings from the 'futures' literature; and strategic implications from the four scenarios.

These outputs have been designed as strategic planning aids which can be used to support the development of long-term plans, strategies, policies and capabilities.

² Global Strategic Trends 'describes a strategic context for those in the Ministry of Defence and wider government who are involved in developing long-term plans, strategies, policies and capabilities'.

Part 1

Key trends and implications out to 2040



Part 1: Key trends and implications

In this section we describe ten trends driving and defining the future of policing’s operating environment out to 2040. The trends were identified by stakeholders as being the most consequential for policing over the next 20 years. We present them not as a prediction of what will happen but as a resource for thinking about the future more strategically.

While it can be useful to think about the impact of each trend individually, it is the convergence of different trends, often in unforeseen ways, that will shape policing’s future operating environment. We therefore recommend that readers consider how different combinations of trends might interact to create new impacts and implications for policing in the future.

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Trend 1:

Rising inequality and social fragmentation

Summary

Inequality within countries is rising. Even in the world's most developed nations, living standards have fallen, wage growth remains low and the gap between rich and poor has reached record levels. In the UK, already high levels of income and wealth inequality are likely to continue to rise out to 2040, with implications for poverty rates, levels of violence and social cohesion. As well as becoming more unequal in socio-economic terms, the UK is also becoming increasingly polarised and tribal in its beliefs, values and behaviours. In the period to 2040, there is an enduring, perhaps increasing, risk that existing fault lines could become even more pronounced and that extreme or violent ideologies could start to take hold.



What's changing and why is it important?

- Inequality globally is growing, with the gap between the haves and have-nots increasing in terms of income, wealth, education, social mobility and political advantage.³
- Without significant intervention, already high levels of income and wealth inequality are likely to increase over the next 20 years. In the UK, the income of high-income households is forecast to rise 11 times faster than the income of low-income households throughout the 2020s⁴, while the amount of wealth owned by the richest 10% of UK households, currently 45% of total national wealth, is also expected to rise⁵. Income and wealth inequality has potentially damaging effects for society at large, including increased rates of violence and lower levels of trust, cooperation and wellbeing⁶.
- 'Digital exclusion' – the gap between those engaging effectively with the digital world and those who are not – could become a major source of inequality over the next 20 years, as digital skills become increasingly important to education, employability and the ability to access information and critical services.⁷ Poor digital skills could exacerbate existing inequalities by adding a new layer of exclusion to the already marginalised.
- A more connected world is likely to increase – rather than reduce – tensions over ideas and identities.⁸ Should current demographic, economic and governance trends hold, the shift towards populism and more authoritarian leadership will continue. So too will the rise of exclusionary national and political identities, as the relationship between technology and culture deepens and growing numbers of people seek meaning and security in the context of disruptive economic, social and technological change.

- An increasingly polarised media and information environment could harden identities and reinforce tribal loyalties, both through highly personalised, algorithmically determined information feeds and through the deliberate and increasingly sophisticated efforts of organisations, governments and thought leaders. Increasing connectivity means that some of these (individual and group) identities will have an international character, leading to the importation of new ideas, ideologies and belief systems.⁹

Implications for policing

- More unequal societies tend to be more violent.¹⁰ This finding also holds up at community level, even after controlling for other determinants of crime such as low income, unemployment and teenage birth rates.¹¹
- An increase in income inequality will likely increase levels of socio-economic deprivation¹², in turn leading to an increase in demand associated with long-standing health and social problems such as drug abuse, anti-social behaviour and mental health conditions.¹³
- The fracturing of societies (online and offline) into segments based on ever-narrower identities and tribal loyalties could drive new forms of identity-based hate crime, radicalisation, protest and resistance.
- If society continues to fracture along current fault lines (eg, liberal/traditional; leave/remain; nationalist/internationalist; pro/anti-change), many existing divides could become even more pronounced, with the police caught somewhere in the middle. It seems reasonable to question whether some traditional policing approaches, which have historically contributed to strained police-community relations and mistrust in the police (eg, the policing of protests), are capable of sustaining public trust and policing by consent under these conditions.

3 UK Ministry of Defence (2018) Global Strategic Trends: The Future Starts Today.

4 Institute for Public Policy Research (2016) Future Proof: Britain in the 2020s.

5 'Total wealth in Great Britain: April 2016 to March 2018'. Office for National Statistics (2019).

6 Wilkinson, R. and Pickett, K. (2009) The Spirit Level: Why More Equal Societies Almost Always Do Better.

7 Carnegie Trust (2016) The Role of Digital Exclusion in Social Exclusion.

8 US National Intelligence Council (2017) Global Trends: Paradox of Progress.

9 Ibid.

10 Wilkinson, R. (2004) 'Why is violence more common where inequality is greater?', Annals of the New York Academy of Science, December (1036), pp. 1-12.

11 Whitworth, A. (2012) 'Inequality and crime across England: a multilevel modelling approach', Social Policy and Society, 11(1), pp. 27-40.

12 McKnight, A., Duque, M. and Rucci, M. (2017) Double Trouble: A review of the relationship between UK poverty and economic inequality.

13 Webster, C. and Kingston, S. (2014) Anti-Poverty Strategies for the UK: Poverty and Crime Review.

Trend 2:

An expanding and unregulated information space

Summary

The manipulation of information online is emerging as a major threat to public life. Across the world, state and non-state actors are using rumours, conspiracy theories, 'fake news' and propaganda to pollute online information environments and artificially shape public opinion. With advances in technology creating new opportunities for mass manipulation, this trend is likely to continue out to 2040, with many of the tactics pioneered by nation states adopted by others for a range of harmful and unlawful purposes.



What's changing and why is it important?

- Over the last decade, disinformation¹⁴ has emerged as a favoured technique of nation states intent on artificially shaping public opinion during elections, security crises and other political events.¹⁵ While disinformation is not new, the rise of social media, where text, video and audio messages can go viral in a matter of seconds, has enhanced both its scale and resonance.
- While state-sanctioned disinformation will remain prominent out to 2040, attempts to pollute mainstream media and information environments with false, misleading or abusive information will extend beyond the coordinated activities of nation states. As the technologies and techniques of disinformation become more widely available and easier to use by people with limited technical know-how, the potential for financial, psychological and societal harm will increase.
- The sophistication of disinformation will be enhanced by new digital technologies over the next 20 years. The combination of more real-world data and artificial intelligence could enable highly accurate predictions about a person's susceptibility to different types of disinformation (eg, rumours, conspiracy theories, fake news) while automating subsequent attempts to manipulate or deceive them.¹⁶ By using technology to craft and amplify divisive messages at critical moments (eg, after a terrorist attack, before an election or during a pandemic), malicious actors could cause panic, disorder or civil unrest.
- Many social media users already find themselves in highly personalised and algorithmically determined news and information feeds which isolate them from conflicting evidence and opinions.

¹⁴ Disinformation is false or misleading information promulgated by design. It can be distinguished from misinformation, which refers to inaccuracies that stem from error.

¹⁵ Pomerantsev, P. (2019) *This Is Not Propaganda: Adventures in the War Against Reality*. London: Faber & Faber.

¹⁶ For more on these specific technologies and their implications, see Caldwell, M., Andrews, J.T.A., Tanay, T. and Griffin, L.D. (2020) 'AI-enabled future crime', *Crime Science*, in press.

If this trend continues, people across all social and political spectrums will start seeing 'realities' which reinforce their existing belief systems, encourage tribalism and drive further polarisation, even if those 'realities' are far from objective truth. As people find it increasingly difficult to tell what is 'real' from what is 'unreal', political, ethical and regulatory conversations will become more difficult. Continuing down this path could undermine the importance and concept of truth.

- Accusations of censorship mean that disinformation is an area in which legislation can be slow to come to fruition. Alternative approaches to tackling disinformation (eg, media fact-checking services) have met with mixed success and are difficult to scale up.¹⁷

Implications for policing

- Advances in technology will make it easier for people with little technical know-how to create and spread disinformation online. For example, as 'deep fake' technologies become more attainable (ie, as they move from software requiring technical know-how to an easy-to-use mobile phone app), many offenders will gain a powerful tool to commit offences such as fraud, harassment, blackmail and domestic abuse. What was once a threat by a single person to divulge embarrassing information to a victim's family, friends or colleagues could become a highly convincing campaign across multiple media to discredit someone in all aspects of their life.
- 'Fake news' has led to vigilantism and other forms of violence in some countries.¹⁸ While state-led disinformation campaigns are typically aimed at disrupting an opponent's political or economic system, the effects are often felt by ordinary citizens because of their exposure

¹⁷ Robinson, O., Coleman, A. and Sardarizadeh, S. (2019) 'A Report on Anti-Disinformation Initiatives'. Available at <https://comprop.oii.ox.ac.uk/wp-content/uploads/sites/93/2019/08/A-Report-of-Anti-Disinformation-Initiatives>

¹⁸ Ibid.

Trend 2: An expanding and unregulated information space

to the platforms and forums in which false, misleading and abusive information is circulated.

- Responding to incidents of false or misleading information could expose policing to claims that it is acting to limit freedom of speech or expression. Some rights groups have claimed that the fight against disinformation is being used to make unjustified arrests and pass repressive laws.¹⁹
- An increase in the volume and sophistication of disinformation online will challenge policing's ability to 'control the message' at critical times (eg, during a pandemic or in the aftermath of a terrorist attack). Police communications teams may need to take on a 'fact-checking' or 'counter-narrative' role to reassure the public, protect operational integrity and maintain police legitimacy.
- Ensuring the safety, integrity and wellbeing of the police workforce may require measures designed to protect officers and staff from disinformation.



¹⁹ Ibid.

Trend 3:

A changing trust landscape

Summary

The relationship between institutions and the citizens they serve is under pressure, weakened by scandal, widening inequalities and populist attacks on the relevance and accountability of prominent institutions. At the same time, many institutions have struggled to adapt to a digital world characterised by heightened transparency, the near-ubiquity of social media and the rapid rise of online platforms and marketplaces. The result has been a shift in trust from centralised institutions to distributed technological systems.



What's changing and why is it important?

- Many Western nations are experiencing chronically low levels of public trust in government and key societal institutions. In 2019, the Edelman Trust Barometer reported that in 12 out of 26 countries, less than 50% of citizens trusted government, business and media to 'do what is right'. In the UK the figure was just 42%.²⁰
- New demands for fairness, transparency and environmental sustainability are putting pressure on existing forms of governance, many of which were not designed to solve the problems they now face. Issues such as climate change, pandemics, cybercrime and terrorism transcend borders and require cooperation at all levels of government – national and international – to solve.
- While trust in government and other key institutions is diminishing, an increasingly diverse, atomised and technologically savvy population still expects them to deliver on a number of fronts. Without efforts to reform and make these institutions more inclusive and accountable, declining trust could lead to further political polarisation, a weakened capacity for collective action and an increase in the number of people turning to anti-democratic narratives and ideologies.²¹
- Declining trust in government could lead to increased demands for decision-making to be passed down to lower levels of governance. Devolutionary pressures and continued separatist demands mean that some countries, including the UK, may not exist in their present form by 2040. Even where pressure to alter national borders is resisted, there is likely to be increasing calls for devolution of power to the regional or local level, particularly as cities gain greater economic, demographic and political influence.²²
- Technological change could drive a paradigm shift for trust over the next 20 years, as new (online) platforms, marketplaces and regulators

assume responsibility for a growing number of functions which have traditionally been performed by public institutions. As more people and services (including e-government) move online, new sources of information, mediums of exchange and mechanisms for signalling trustworthiness will become increasingly important – potentially leading to further erosion of trust in established actors and institutions.

Implications for policing

- There are some early signs that trust in the police may be starting to decline. In 2019, 55% of the public had confidence that 'the police and local council are dealing with the anti-social behaviour and crime issues that matter in the local area', down from 59% in 2018. Between 2012 and 2017 the average was 61%.²³
- As the near ubiquitous presence of social media brings greater visibility (but limited context) to police conduct, some traditional policing approaches, especially those which have historically contributed to strained police-community relations or struggles for legitimacy, may serve to undermine public trust. More novel and non-traditional policing approaches might be needed to bridge the gap between effective community relations and public safety.
- As technologies such as blockchain²⁴ become more widely used in cybersecurity (eg, to protect personal data and make financial transfers more secure and transparent) private actors will likely play a more overt and significant role in regulating online harms. In the future, the creation of highly secure cyber-networks could mean that decisions about what online harms to govern, how to govern them and who ultimately benefits will fall to profit-driven private actors rather than the state, raising important questions about policing's role in regulating online spaces.

20 Edelman Trust Barometer (2019). Available at: https://www.edelman.com/sites/g/files/aatuss191/files/2019-02/2019_Edelman_Trust_Barometer_Global_Report.pdf

21 Policy Horizons Canada (2018) Next Generation Emerging Challenges

22 UK Ministry of Defence (2018) Global Strategic Trends: The Future Starts Today.

23 Crime Survey for England and Wales (2019b) Estimates of personal and household crime, anti-social behaviour and public perceptions, by police force area.

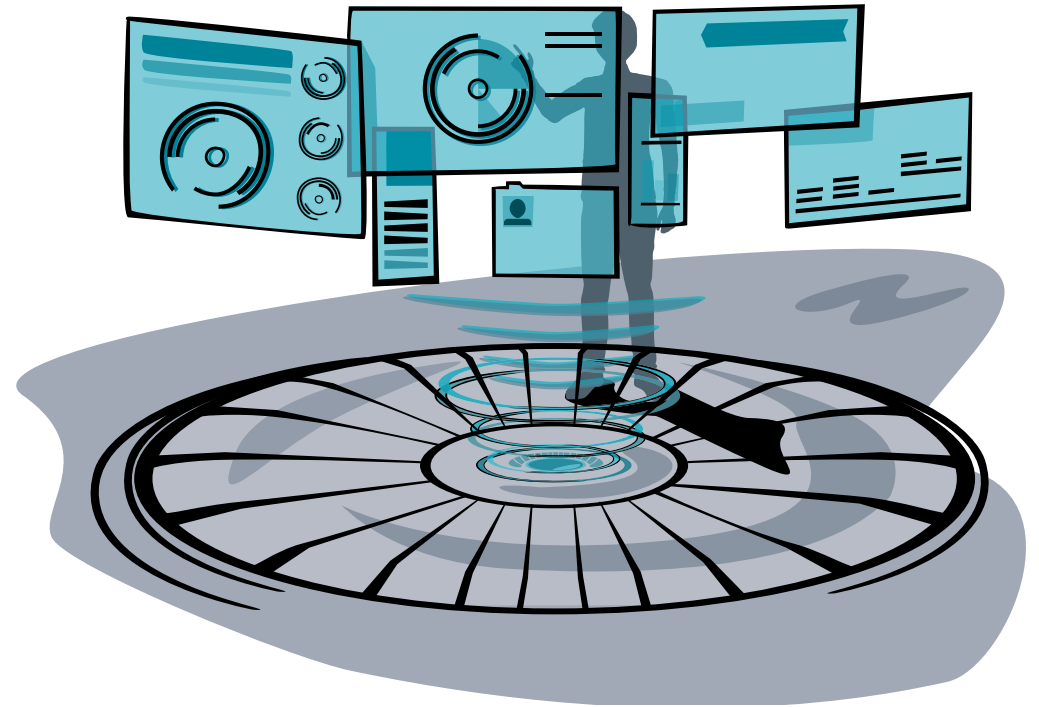
24 Blockchain is a data structure that holds transactional records while ensuring security (through cryptography), transparency and decentralisation. It can be thought of as a chain of records stored in the form of blocks which are controlled by no single authority.

Trend 4:

Technological change and convergence

Summary

Connectivity, processing power and the volume and variety of data will continue to grow exponentially to 2040, driven by the evolution of 'next generation' technologies such as artificial intelligence, the internet of things, biotechnology and quantum computing. While the development and convergence of new technologies will improve our capacity to solve problems of increasing complexity and urgency, they will also increase the risk of societal upheaval, political grievances and possibly violent conflict. Greater awareness of the social and ethical costs of emerging technologies could cause debates about their value to become more divisive.



What's changing and why is it important?

- Digital technologies are evolving and converging rapidly, fuelled by extreme connectivity and growing volumes of real-time, real-world data. This trend will intensify over the next 20 years, benefitting individuals, communities and businesses through easier communication and more efficient access to information, products, services and experiences. However, a growing digital divide, where some individuals and groups are unable to fully access digital technologies, could mean that benefits are unevenly distributed and existing inequalities are exacerbated.
- 'Next generation' technologies such as AI, robotics, the internet of things, 3D/4D printing, genetic editing and synthetic biology are likely to bring numerous benefits, from increased productivity and economic growth to greater success in tackling global challenges such as climate change, resource scarcity and transnational organised crime. The development and application of new digital technologies will be critical for industrial and economic competitiveness going forward.
- Technological convergence will transform the transport sector by 2040. Combined advances in AI, robotics, electric or hydrogen engines, sensors and satellite navigation systems will allow growing numbers of people to move around in autonomous vehicles while working, surfing the internet or interacting with 'smart' homes. This evolution in 'intelligent mobility' could fundamentally alter travel between and within urban centres.
- Digital surveillance technologies are likely to cross new frontiers in the next 20 years.²⁵ While current digital surveillance systems typically track and record a person's 'digital footprint' (eg, their internet presence), future systems will possess the ability to interpret people's moods, emotions and (hidden) intentions. For example, advances in neurotechnology could allow us to monitor brain 'events' in ways that are not currently possible, with information 'downloaded' from the brain used to control devices or obtain knowledge of a person's intentions.
- At the same time, digital assistants, sensors, self-driving vehicles and aerial delivery drones will have a growing presence in everyday life, many equipped with advanced audio and video systems capable of collecting highly personal information. The 'deep' surveillance these technologies make possible could dissolve the boundary between public and private spaces.
- Ever-more information may impact cognitive and attentional capacities, while the trend of outsourcing labour to digital assistants, therapy bots and carer robots could increase both physical and emotional dependence on technology – developments which could give rise to a number of physical and mental health conditions. In the longer term, increasing human-machine interaction, combined with the development and application of new human augmentation technologies,²⁶ could blur the boundaries between human consciousness and artificial intelligence.

²⁵ Policy Horizons Canada (2018) Next Generation Global Challenges.

²⁶ A human augmentation technology is any technology which enhances a human capability or somehow adds to the human body. Examples include pacemakers, prosthetics, wearable devices, chip implants and genetic modifications.

The following technologies are expected to develop on a significant scale between now and 2040:

- **The internet of things.** By 2030, more than 125 billion items, ranging from cars to fridges to coffee machines, are expected to be connected to the internet.²⁷ The mass of data generated by these items will become a highly valuable resource for those who can access and interpret them.²⁸
- Advances in **AI** will improve the ability of machines to act intelligently and autonomously. AI is already having a significant impact on the health, defence, education and transport sectors, but its status as a platform technology²⁹ means it could become ubiquitous by 2040. It is possible, though unlikely, that we will see the development of artificial general intelligence (AGI) – where a machine has the ability to understand or learn any intellectual task a human can – in the next 20 years.
- **Intelligent mobility.** By 2040, energy, transport and information systems will be closely linked by sensors of all kinds, making the movement of people and goods easier, more efficient and more environmentally sustainable.
- **Synthetic biology** will enable the production of new environmentally friendly products through the industrial-scale production of biomaterials, leading to innovations in fields such as healthcare, agriculture, manufacturing and the environment. At the same time, **genetic editing** could lead to significant improvements in medicine by enabling precise, reliable and efficient changes to targeted DNA, possibly allowing previously untreatable genetic conditions to be cured. However, such developments could enable rogue actors to develop deadly biological weapons, or give themselves extraordinary abilities.³⁰
- Ubiquitous **sensors** will govern communications devices, clothes, houses, vehicles and drones. The data captured by these sensors will be analysed by powerful AI systems and used to model and/or predict a variety of events, such as pollution, traffic flows and criminal behaviour.
- **Computer-aided design and additive manufacturing (3D/4D printing³¹)** will reduce the time needed to develop new products, increase the number of products tailored to individual customers and open up the product design and manufacturing process to a broader range of people.
- A combination of **robots, nanotechnology and artificial intelligence** could replace humans engaged in repetitive production or household services. By 2040, autonomous, perhaps even self-learning algorithms, will enable vehicles, drones and anthropomorphic robots to operate autonomously.
- **Augmented and virtual reality (AR/VR)** will become everyday design and communication tools in a wide range of fields. Their development could open up new arenas in which human desires and preferences can be met more reliably and efficiently than in the ‘real’ world.

27 IHS Markit: ‘The Internet of Things: A movement, not a market’. Available at <https://ihsmarkit.com/Info/1017/internet-of-things.html>

28 For more information on the crime risks associated with the internet of things, see Blythe, J.M. & Johnson, S.D. (2019). ‘A systematic review of crime facilitated by the consumer Internet of Things’. *Security Journal*, pp. 1-29. Available at: <https://doi.org/10.1057/s41284-019-00211-8>.

29 A ‘platform’ is a group of technologies which are used as a base upon which other applications, processes or technologies are developed.

30 For more information on the crime risks associated with synthetic biology, see Elgabry, M., Nesbeth, D. & Johnson, S.D. (2020). ‘A systematic review protocol for crime trends facilitated by synthetic biology’. *Systematic Reviews*, 9(1), 22. Available at: <https://doi.org/10.1186/s13643-020-1284-1>.

31 4D printing is a renovation of 3D printing which uses special materials to print objects that change shape post-production.

Implications for policing

- Advances in technology could cause criminal behaviour to become increasingly two-tiered. Police use of advanced data analytics and crime prevention technologies could mean that getting away with some traditional crimes will require enormous technical know-how, potentially diminishing crimes such as theft, burglary and public order offences. Meanwhile, the emergence of crime-as-a-service, where sophisticated cybercriminals develop advanced tools and other packaged services which are then sold or rented to less experienced criminals, could mean that a significant number of offenders are either carrying out low-level cyberattacks (eg, phishing) on low-security targets, or working on behalf of states, private companies or organised crime groups to carry out sophisticated cyberattacks or acts of cyberterrorism.
- As the ethical and social costs of new technologies become clearer, public and political debates about their role, value and control are likely to become sharper and more divisive. Policing will need to weigh the risks of new technologies against their benefits to the core policing mission, focusing on what each technology should, rather than can, do.³²
- Those parts of policing most impacted by rapid technological change may require an increased share of funding due to rapid obsolescence and high replacement costs.
- Technologies such as VR could increase the realism, efficiency and cost-effectiveness of a wide range of police training packages.

³² This will in turn require a more evidence-based understanding of what the benefits and risks of new technologies are.



Trend 5:

A larger, older, more diverse population

Summary

Demographic trends will reshape the UK's political, financial and social priorities over the next 20 years. By 2040, the UK population will be larger, older and more diverse – trends that will increase demand on public services and necessitate tough financial choices and trade-offs. At the same time, global challenges such as climate change, resource scarcity and regional conflict are likely to drive increasing migration in many parts of the world, with the UK remaining an attractive destination for both legal and illegal migration.



What's changing and why is it important?

- Global demographics are changing as a result of increasing life expectancy, declining fertility rates and rising levels of education and mobility. With life expectancy overall increasing, the world population could peak at around 8.5 billion in 2030, before starting to flatten out.³³ Most of this growth will be concentrated in Africa, Central Asia and the Middle East, with Europe's population expected to decline.³⁴
- The UK population will grow in size over the next 20 years. By 2043, the UK population is forecast to reach 72.4 million, with much of this growth concentrated in cities – the population of London is projected to grow to 10 million by 2030 (up from 8.9 million in 2018³⁵). A larger population will place increased demands on a range of public services, including education, housing, health and social care. Population density is also a predictor of crime.³⁶
- More than 70% of UK population growth over the next 20 years is forecast to be in the 60+ age group (taking the total number of over 60s to 21.9 million by 2039³⁷). Meanwhile, the number of working aged people is expected to grow by just 2%, resulting in less people working and a shrinking tax base. The increasing proportion of elderly people will reshape the UK's financial, social and political priorities as governments grapple with issues related to ageing populations.
- By 2040, the UK is forecast to become almost as ethnically diverse as the United States is today, with the non-white share of the population rising to about 23% (up from 14% in 2011³⁸).
- The number of one-person households in the UK is forecast to reach 10.7 million by 2039 – up from 7.7 million in 2017³⁹. This could lead to a growth in technology-based initiatives aimed at tackling social isolation, including the use of chatbots, VR, carer robots and social media to provide both real and virtual companionship.
- Learning and training will become even more important as the population ages. 'Lifelong learning' will help people participate for longer in the labour market, build personal and mental resilience and bring a variety of health and wellbeing benefits. Despite this, participation in adult education and training has fallen in recent years.⁴⁰
- Climate change, resource pressures and regional conflict will create pressures to emigrate in many parts of the world. Europe may not remain a primary destination as south-north migration declines and south-south migration increases. However, the need in many parts of Europe for immigrant workers may increase in response to projected labour shortages, even though current trends (eg, low wage growth and rising populism) could make it more difficult for governments to win support for more open and forward-looking immigration policies.⁴¹

33 United Nations (2015) Population 2030: Demographic challenges and opportunities for sustainable development planning.

34 Ibid.

35 Office for National Statistics (2019) 'National population projections: 2018-based'

36 Whitworth, A. (2012) 'Inequality and crime across England: a multilevel modelling approach', *Social Policy and Society*, 11(1), pp. 27–40.

37 Office for National Statistics (2014) 'Population projections by age'

38 Rees, P., Wohland, P., Norman, P.D., Lomax, N. and Clark, S.D. (2016) 'Population Projections by Ethnicity: Challenges and a Solution for the United Kingdom'. In: Swanson, D.A., (ed.) *The Frontiers of Applied Demography*. Applied Demography Series, 9, pp. 383–408.

39 Office for National Statistics (2019) 'The cost of living alone'

40 UK Government Office for Science (2016) *Future of an Ageing Population*.

41 European Strategy and Policy Analysis System (2019) *Global Trends to 2030*.

Implications for policing

- Older people have greater need for various kinds of social services.⁴² While elderly people are not by definition vulnerable, they still require support, are more likely to fear being victims of crime and are vulnerable to a range of criminal behaviours, especially those involving deception.⁴³
- The number of elderly people who are now online has increased significantly in recent years and will continue to increase out to 2040.⁴⁴ As the number of elderly people online increases and their use of the internet extends into new areas (eg, virtual companionship), their dependence on it, as well as their exposure to risk, will increase.
- As working lives lengthen and the workplace undergoes major changes, including becoming more virtual, job-related training will become almost as important to people in mid- and later-life as at the beginning of their careers. This will require policing to move towards a model where training and reskilling opportunities are available throughout people's careers.

42 Joseph Rowntree Foundation (2007) The support older people want and the services they need.

43 HMICFRS & HMCPSI Joint Inspection (2019). The poor relation: The police and Crown Prosecution Service's response to crimes against older people.

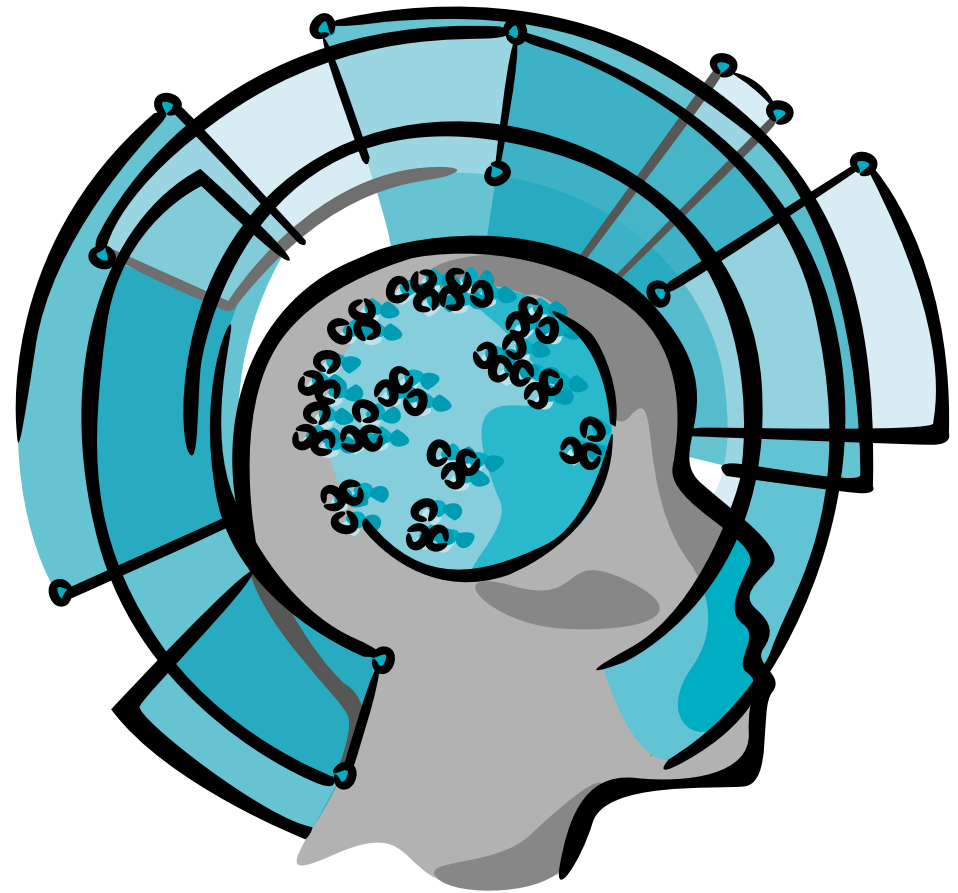
44 Age UK (2016) 'The Internet and Older People in the UK – Key Statistics'.



Trend 6: Harnessing artificial intelligence

Summary

AI could be the most transformative technology of the next 20 years. By helping machines perceive, reason, learn and plan, AI will boost productivity, aid human cognition and improve our capacity to solve problems of increasing complexity. At the same time, the widespread adoption of AI will bring questions of ethics and regulation into sharper focus, as it starts to challenge deeply held assumptions about work, privacy and human purpose. The widespread use of AI systems will pose a fundamental challenge to business models, economies and cultures.



What's changing and why is it important?

- Advances in AI (eg, machine learning and natural language processing) will increase the pace of change and create new opportunities in a wide range of sectors. But AI will also create disruption: combined with advances in other technologies (eg, robotics), AI could change industries faster than economies and regulatory systems can adjust, potentially leading to widespread job displacement.
- As AI matures it will spur advances in other technical fields, particularly the domains of autonomous robots, cars, lorries, boats and aircraft. The ability of AI to process, analyse and make decisions based upon real world data will change the way people and products move through the world. Any device with mobility will be increasingly capable of navigating the physical world and accomplishing the tasks they were designed for without direct human control.
- The combination of biometrics, surveillance technologies and machine learning are making 'human profiling' systems a reality.⁴⁵ In some countries, AI and biometrics are already being used to identify and track fugitives, profile potential future criminal activity and provide alerts if certain individuals (eg, sex offenders) move into areas that are restricted based on their profiles.⁴⁶
- Low-value manufacturing – historically a stepping stone to economic development for poor countries and a pathway to prosperity for aspiring workers – will tend toward needing fewer low-skilled workers as advances in AI, robotics and other manufacturing technologies take hold.⁴⁷

⁴⁵ Profiling in this context refers to the use of technology to analyse aspects of an individual's personality, behaviour, interests and habits to make predictions or decisions about them.

⁴⁶ Policy Horizons Canada (2018) Next Generation Emerging Challenges

⁴⁷ US National Intelligence Council (2017). Global Trends: Paradox of Progress.

- Alongside emerging technologies such as data analytics, sensors and telepresence⁴⁸, AI could transform government structures and processes by allowing policy design, service delivery and citizen engagement to be customised to individual citizens.

Implications for policing

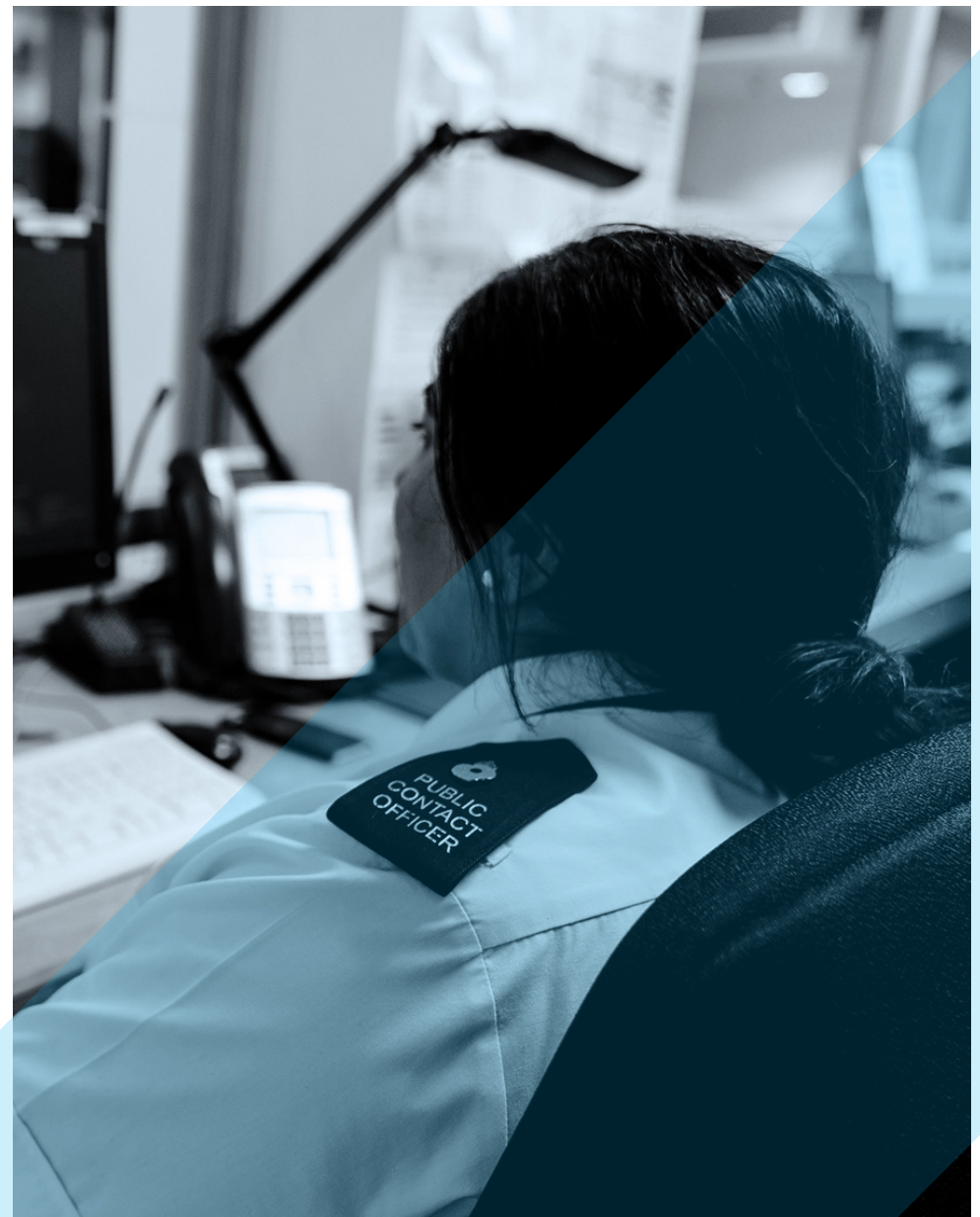
- AI has the potential to vastly improve policing's ability to prevent crime, manage its resources more efficiently and coordinate fast-moving responses to major incidents. Crime prevention and criminal investigation teams could use AI to speed up the identification of criminals and their motives; neighbourhood policing teams could benefit from a better understanding of community dynamics; major incident commanders could use AI systems to improve situational awareness and better visualise potential strategies and tactics; and police call centres could use AI systems such as those pioneered by Amazon and UPS to more efficiently route responses to calls for service.
- The physical and psychological distance that AI systems create for attackers (eg, through automation) could diminish many of the moral barriers to cybercrime – thereby lowering barriers-to-entry. AI could lead to an increase in novel cyberattacks seeking to mimic human abilities (eg, speech synthesis for impersonation) or exploit existing software vulnerabilities (eg, through automated hacking).⁴⁹
- Increasingly, what is considered important or ethical in policing could be determined by opaque algorithms rather than legal, moral or political frameworks grounded in human values. To realise the full crime prevention and public safety benefits of AI, policing will need to become

⁴⁸ 'Telepresence' is the use of VR technology for remote control of machinery or for participation in distant events.

⁴⁹ For more information, see Caldwell, M., Andrews, J.T.A., Tanay, T. and Griffin, L.D. (2020) 'AI-enabled future crime', Crime Science, in press.

comfortable with making quick, high-stakes decisions on the basis of algorithms that are often (currently) unintelligible to human beings.

- If policing is to strike the right balance between the benefits and risks of AI, it will need to work closely with citizens, government and private sector partners to develop a clear value proposition – as well as ethical use principles and intervention criteria – for its use across the full spectrum of policing activities. With policing still in the early stages of its ‘AI journey’ there is ample opportunity for ethical frameworks and regulation to be developed up front.
- AI and advanced data analytics raise the possibility that some analytical roles could become automated in the future. However, given the fallibility of AI and the high-stakes nature of much police decision-making, some degree of human input, both in the development of algorithms and in the oversight of AI-based assessments, will be crucial. Police analysts in the future may become less focused on identifying crime patterns and more focused on deciding what to do with the analysis performed by AI systems.

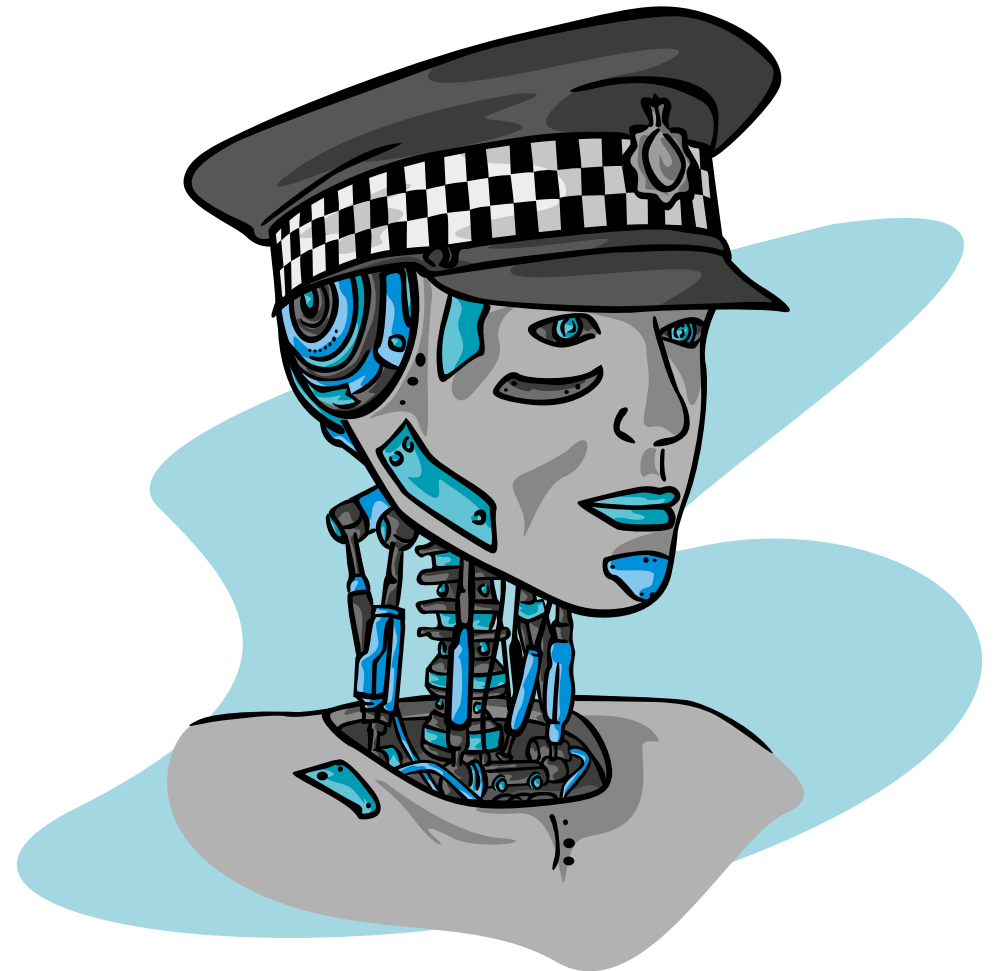


Trend 7:

Workforce automation

Summary

Advances in robotics, machine learning, data analytics and affective computing mean that growing swathes of work are potentially automatable. Managed well, automation could boost productivity, reduce human involvement in potentially harmful activities and free up time for alternative pursuits that allow for the development of new skills and contribute to greater wellbeing. However, as automation spreads, a growing number of people may become surplus to requirements, increasing the need to upskill workers, support career changes and rethink basic and deeply entrenched ideas about work and income.



What's changing and why is it important?

- The widespread adoption of automation technologies is transforming – and disrupting – a growing number of skills, jobs and types of work. Technologies such as robotics, machine learning and affective computing could increase productivity, economic prosperity and opportunities for workers to focus more on their wellbeing, but could also lead to significant job losses, lower pay and inequality.⁵⁰
- The impact of automation will affect regions differently over the next 20 years. More than 50% of jobs are at risk of becoming automated in many countries in Asia, Africa and the Middle East, with China potentially the hardest hit because of its high number of manufacturing jobs.⁵¹ In the UK, fewer jobs are likely to be vulnerable, although estimates of the proportion that could be automated range from 20% to 40%.⁵²
- While earlier workforce transformations (eg, the large-scale shift from agricultural work to manufacturing that occurred in the early 20th century in North America and Europe) took place over many decades, allowing older workers to retire and new entrants to the workforce to transition effectively, the shift to a more automated workforce will occur much more quickly. This will increase the risk of widespread job displacement and intensify the need to reskill, retrain and redeploy large numbers of workers, both within individual organisations and the economy as a whole.
- Increasing automation in the workplace is likely to increase demand for medium- and high-skilled workers. Low-skilled workers could increasingly take up jobs in sectors where automation has not yet replaced human labour.⁵³

- As automation becomes more widespread, the primary value that human labour can add is in creative, analytical or interactive contributions that result in discovery, innovation, teaming, leading or learning.⁵⁴

Implications for policing

- Machines are already part of the police workforce: chatbots that respond to public enquiries, for example, or algorithms which analyse crime data and provide forecasts about 'hot spots', linked crimes and potential offenders. Their role, however, is set to increase dramatically over the next 20 years as the combined power of technologies such as AI, advanced robotics and data analytics present opportunities to perform a growing number of tasks (eg, use of pattern recognition software to review CCTV or body-worn video footage) with greater speed and accuracy than traditional approaches. At the same time, there will also need to be significant investment to secure these systems from cyber threats, as 'unsettling' automated systems may be all that is required to have big effects on them.⁵⁵
- AI and other automation technologies could damage the morale, motivation and wellbeing of the police workforce if their integration into the workplace is not managed carefully. Building a workforce with the intellectual and psychological aptitude necessary to work in an increasingly automated environment will be an important part of preparing policing for the future.
- As automation within policing increases, policies aimed at reskilling, retraining and redeploying workers will become increasingly important. This will require an increase in police education and training budgets as well as initiatives designed to retain highly-skilled workers (whose creative, analytical or collaboration skills will be in high demand).

50 UK Ministry of Defence (2018) Global Strategic Trends: The Future Starts Today.

51 See <https://www.pwc.co.uk/services/economics-policy/insights/the-impact-of-automation-on-jobs.html>

52 Ibid.

53 UK Commission for Employment and Skills (2014) Future of Work: Jobs and skills in 2030.

54 Austin, T. (2010) Watchlist: Continuing changes in the nature of work.

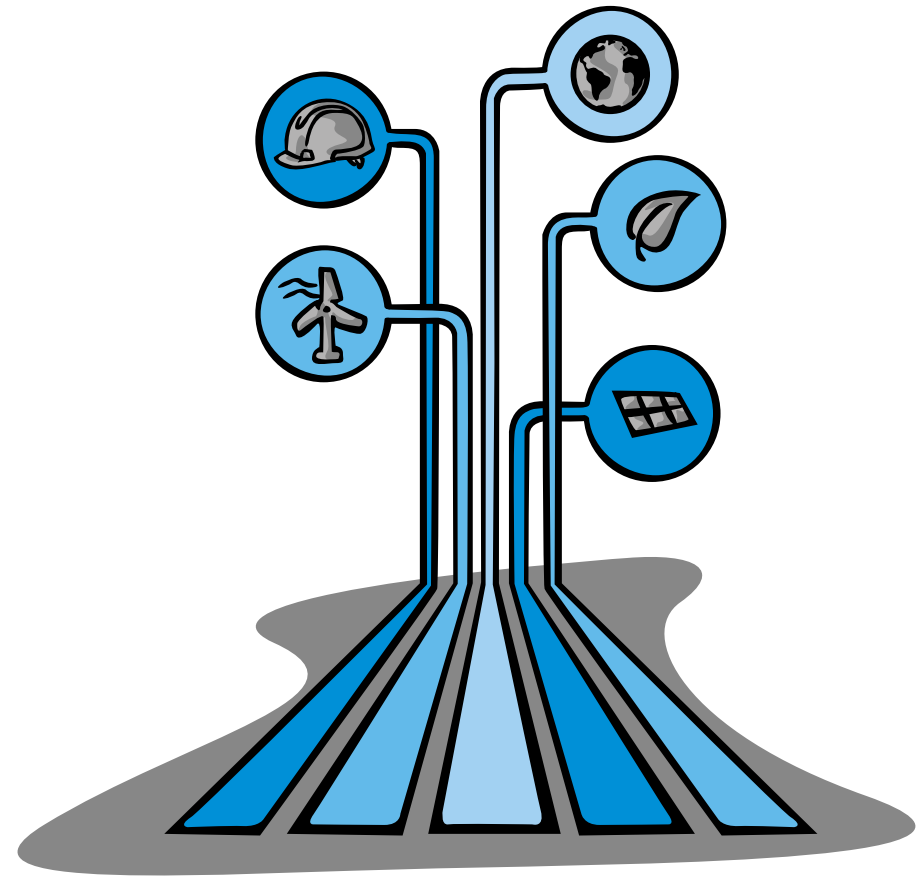
55 For more information, see Caldwell, M., Andrews, J.T.A., Tanay, T. and Griffin, L.D. (2020) 'AI-enabled future crime', Crime Science, in press.

Trend 8:

Economic transitions

Summary

The global economy is becoming more fragile as globalisation evolves and economic power shifts from west to east. For many Western countries, the combination of low productivity, ageing workforces and geopolitical uncertainty point toward a prolonged period of weak economic growth and strained public finances. This is also the case for the UK, whose post-Brexit economic realignment could take several years and is likely to lead to a more managed economy, new trade partnerships and increased protectionism. At the same time, the transition to a low carbon economy, combined with the development and application of new technologies, could create new pockets of economic strength.



What's changing and why is it important?

- Over the next 20 years, the economic world order will become more fragile as globalisation evolves, economic power shifts toward Asia and new trade patterns and dynamics emerge. For many Western countries, including the UK, demographic and productivity trends point toward a prolonged period of weak growth underpinned by a number of systemic risks linked to financial systems in emerging economies.⁵⁶
- Many of the values, rules and institutions governing the global economy are likely to come under growing pressure as the 'globalism' that underpinned the post-Second World War international order is challenged.⁵⁷ At the same time, many of the products and services of the next 20 years will likely depend on the ability of consumers, companies and governments to exchange information across borders with minimal restrictions. This could lead to the emergence of new trade agreements, regulatory standards and governance arrangements, including new supranational institutions.
- The UK economy is likely to experience a prolonged period of low growth and low inflation, characterised by weak real wage growth, heavily indebted households, extensive financialisation and Brexit-related trade uncertainties.⁵⁸ Despite this, the UK economy is likely to remain within the top 10 global economies, as measured by GDP.⁵⁹
- The period to 2040 could see new pockets of UK economic strength emerge, including green energy, advanced manufacturing, a growing space sector and the design and management of 'smart' cities.⁶⁰ As the boundaries between disciplines such as nanotechnology, biotechnology, information technology and cognitive science converge, new markets and novel application fields will start to emerge, creating new jobs and economic opportunities.

- Rapid technological change is likely to transform – and disrupt – a growing number of skills, jobs and sectors of the economy. Companies may become more virtual, large swathes of work could become automated and freelance, contract and temporary work – as well as the infrastructure to support them (eg, online platforms and reputation systems) – will grow in scale and importance. The number of self-employed people could overtake the number of public sector workers by 2030.⁶¹

According to a study by the Institute for Public Policy Research, a number of major, systemic risks could significantly worsen the health of the global economy over the next two decades, including:⁶²

- A global energy price shock driven by geopolitical instability and resource conflict.
- Economic instability caused by widespread automation, water management crises and major natural disasters.
- Asset bubbles created by excessive private credit growth.
- China failing to transition smoothly to a mature consumption-led growth model.
- Large-scale involuntary migration caused by climate change, resource scarcity or interstate conflict.

56 Institute for Public Policy Research (2016) Future Proof: Britain in the 2020s.

57 UK Ministry of Defence (2018) Global Strategic Trends: The Future Starts Today.

58 Institute for Public Policy Research (2016) Future Proof: Britain in the 2020s.

59 Ibid.

60 Ibid.

61 Ibid.

62 Institute for Public Policy Research (2016) Future Proof: Britain in the 2020s.

Implications for policing

- In a fiscally constrained environment, competing priorities such as technology investment, education and training, pension payments and workforce wellbeing will make the affordability challenge ever starker and will require difficult decisions. With the economy likely to settle into a low-growth, low-productivity equilibrium, planning assumptions will need to be carefully considered. Prudent investment in science and technology will be necessary to mitigate threats and identify and realise opportunities.
- Given the number of major, systemic risks to global economic health, it may be prudent for policing to routinely and actively prepare for recession, whenever it may come.
- Scope to invest in employment and education initiatives is likely to be challenged by competing fiscal pressures. There may be greater onus on the individual to invest in learning and training if funders are unwilling or unable to maintain their level of investment in human capital.



Trend 9:

Growing influence of non-state actors

Summary

Non-state actors are becoming increasingly powerful both domestically and internationally. Technology companies in particular are using their influence to gain control over more data, provide new public services and demand concessions from national governments. While the state is expected to remain the primary actor in shaping UK society for the next 20 years, it could struggle to keep pace with the demands of an increasingly diverse, atomised and technologically savvy population. This disconnect could result in non-state actors becoming even more powerful, potentially undermining the levers that nation states rely on to grow their economies, protect their borders and ensure the security of their populations.



What's changing and why is it important?

- A small number of multinational corporations have grown extremely powerful in recent years. Global corporations such as Facebook and Google are working to connect the next billion people to the internet; Amazon and the Gates Foundation are providing critical public services; and BlackRock is calling for increased corporate responsibility on social and environmental issues – all of which enhances the power of these non-state actors to act in highly consequential ways.⁶³
- Through their investments in artificial intelligence, 'smart' cities and autonomous vehicles, private companies are building the infrastructure of the next 50 years in ways that national governments once did. This is putting powerful resources – particularly data – in the hands of non-state actors without the burdens of bureaucracy and accountability. It is also expanding the range of actors who can block or circumvent political or regulatory action.
- New technologies threaten many of the levers that national governments rely on to affect change.⁶⁴ For example, the development of cryptocurrencies, because they stand outside the control of central banks, could undermine the ability of nation states to grow their economies by removing a number of policy levers.
- The economic, political and cultural significance of today's 'megacities' is likely to grow over the next 20 years, increasing their ability to act independently of national governments.⁶⁵ For example, the decision of several US cities, states and technology firms to sign up to the Paris Agreement on climate change, in response to the US Federal Government's decision to withdraw from it, may in the future be replicated by other cities on a variety of issues.

Implications for policing

- Over the next 20 years, global technology platforms are likely to grow in scale, reach and influence. In the absence of effective regulation, the opportunities currently afforded to criminals and other malicious actors to operate with a high level of anonymity will continue, or perhaps even increase.⁶⁶
- As what it means to be protected from harm becomes increasingly associated with security in online spaces, private actors, particularly those operating in areas of technological complexity, are likely to play a more overt and significant role in law enforcement.⁶⁷ As a result, decisions about what harms to govern, how to govern them and who ultimately benefits will increasingly fall to profit-driven private actors rather than the state. This could challenge police legitimacy by undermining the claim that security is a primary task of the state.
- To counter new threats and exploit new opportunities, particularly those presented by fast developing technologies, policing will need to build partnerships with a more diverse range of actors than is presently the case, even where this involves greater decentralisation of decision-making and accountability. Police forces will need to become 'network orchestrators' who harness and lead the problem solving capabilities of other actors.
- As the reach and power of non-state actors increases, the sovereignty of the state is likely to be further eroded and a more complex, networked system of governance may emerge.⁶⁸ In the future, a growing number of state responsibilities, including aspects of law enforcement (eg, surveillance), may be delegated to more complex public-private partnerships, organised on a transactional basis according to the task in question.

63 Policy Horizons Canada (2018) Next Generation Emerging Challenges.

64 Ibid.

65 UK Ministry of Defence (2018) Global Strategic Trends: The Future Starts Today.

66 Europol (2017) Crime in the age of technology.

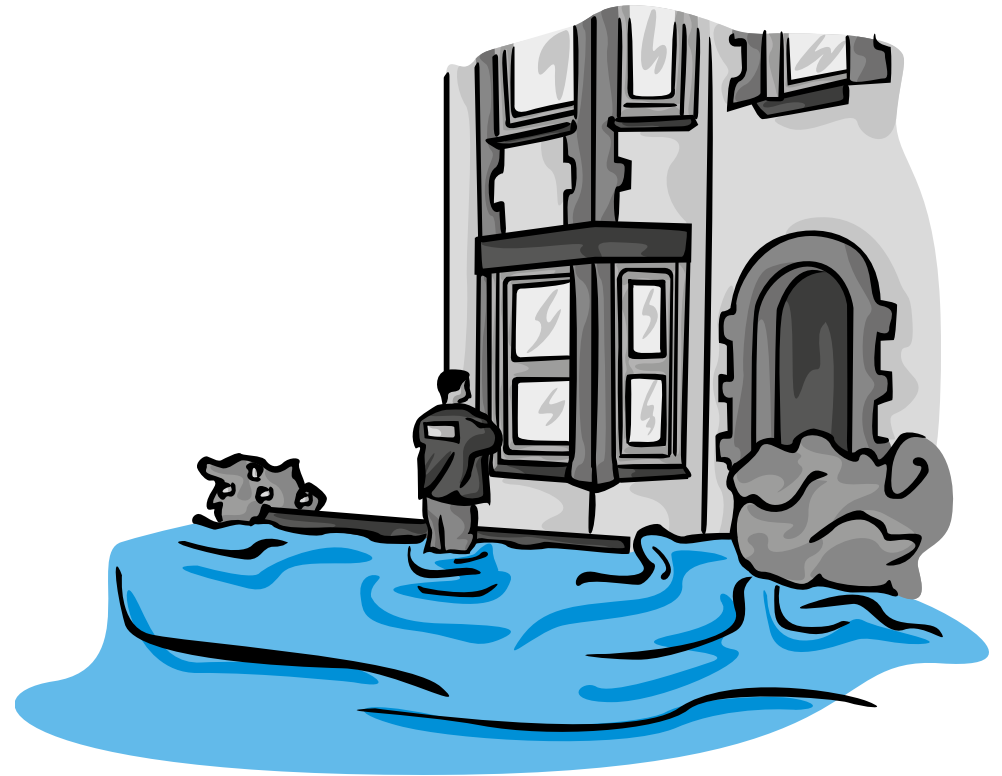
67 See Carrapico, H and Farrand, B. (2017) 'Dialogue, Partnership and Empowerment for Network and Information Security: The Changing Role of the Private Sector from Objects of Regulation to Regulation Shapers', *Crime, Law and Social Change*, 67(3) pp. 245-263.

68 UK Ministry of Defence (2018) Global Strategic Trends: The Future Starts Today.

Trend 10: Climate change, environmental decline and competition for resources

Summary

Climate change, environmental decline and increasing demand and competition for resources are already having a severe impact on people, economies and ecosystems around the world. While the UK will be spared the worst effects of these developments over the next 20 years, the disruption caused by rising sea levels, extreme weather events and increasing resource scarcity will affect many aspects of people's lives and livelihoods. As time passes, the social and economic costs of climate change and environmental decline will increase, as mitigation becomes increasingly complex and expensive. Meanwhile, increasing global demand and competition for resources will drive international competition and could give rise to market volatility, geopolitical tensions and violent conflict.



What's changing and why is it important?

- Global warming and environmental degradation is undermining the peace, security and wellbeing of millions of people worldwide. At the same time, a growing world population and rising living standards are increasing demand and competition for many natural resources, including food, water, energy and rare earth materials.⁶⁹
- In the period to 2040, the social and economic cost of climate change to governments, businesses and citizens will increase as mitigation becomes more complex and expensive. As pressure on these groups to 'do their part' increases, actions viewed as slowing or blocking change could give rise to further protest, civil unrest and even violent disorder.
- Demand and competition for natural resources will increase over the next 20 years, as will the associated risks of market volatility, geopolitical tensions and interstate conflict.⁷⁰ This is because large-scale exploitation of natural resources is – and will remain out to 2040 – highly concentrated in a small number of producer countries (China, United States, Australia, the European Union, Brazil, Russia, India and Indonesia).⁷¹ The UK will remain heavily reliant on imported food, energy and industrial resources, leaving it vulnerable to global supply bottlenecks.⁷²
- Rising demand for technologies such as wind turbines and electric cars will cause demand for rare earth elements (REEs) to increase out to 2040.⁷³ However, the scale of demand, supply monopolies and environmentally unsustainable mining practices could lead to supply shortages. Insufficient supply of REEs could cause large fluctuations in prices for many sectors of the economy.⁷⁴

- Without effective interventions there will be water supply-demand deficits in the UK by 2030.⁷⁵ The greatest impact on water availability is expected to be in England, particularly London, the midlands and the north-west. Water supply shortages would impact both public water supply and the condition of the natural environment (eg, soil quality).

According to the UK Climate Impact programme⁷⁶ the likely effects of unmitigated climate change on the UK include:

- It is likely that average temperatures in the UK will rise. Hotter summer temperatures will become more frequent and very cold winters will become increasingly rare.
- The amounts and frequency of rainfall will change. There will be increased local flooding with more flash flooding occurring, putting increased pressure on infrastructure, water resources and local economies.
- Severe weather events such as droughts, heat waves, flooding, severe gales and snowfall are likely to increase. In the longer term, extreme weather may affect where people live, work and spend their leisure time.
- The impact of climate change on other parts of the world will create supply bottlenecks that affect the UK.
- Sea levels could rise by 40cm by the end of the century leading to further coastal erosion and flood risks. Some parts of the UK could be under water by 2040.

69 UK Ministry of Defence (2018) Global Strategic Trends: The Future Starts Today.

70 European Strategy and Policy Analysis System (2019) Global Trends to 2030.

71 Ibid.

72 UK Parliamentary Office of Science and Technology (2019) Preparing for a changing world.

73 Ibid.

74 Ibid.

75 HM Government (2008) Future Water: The Government's water strategy for England.

76 UK Climate Impacts Programme. Available at <https://www.ukcip.org.uk/>

Implications for policing

- If progress towards mitigating global warming, ecological degradation or resource scarcity is deemed inadequate or too slow, current grievances and protest movements could mutate into violent ideologies and mass mobilisations.
- Policy responses to climate change will require new legal mechanisms that will in turn require rigorous policing. For example, enforcing regulations in carbon trading, as well as investigating corruption or fraud in such a system, is something that police forces may get drawn into. Growing recognition that climate stress is primarily due to human influence is likely to prompt calls for more state involvement in identifying and holding responsible those causing environmental harm.⁷⁷
- An increase in the frequency and intensity of extreme weather events will increasingly impact on population centres. Droughts, heat waves and floods place significant demands on the police to both maintain security and provide emergency response and disaster management. Police forces may need to integrate further with local and national disaster response agencies as well as factor the likely effects of climate change into their disaster management plans.
- Organised crime groups could take advantage of the stresses caused by climate change and increasing demand for resources. For example, disruption to resource-related supply chains, because of the impact this would likely have on certain industries (eg, agriculture), could lead to more corruption, price-gouging and demands for protection.

⁷⁷ There have already been calls for a new crime of ecocide (see Agnew, 2013; Haines and Parker, 2017).



Part 2

Scenarios



Part 2: Scenarios

A limitation of an exclusively trend-based analysis is that it can give too linear a view of the future, resulting in an over-emphasis on continuity and an under-emphasis on potential shocks, surprises and disruptions (eg, a pandemic). One of the best methods for seeing beyond a linear projection of the future – and considering the range of possibilities the future may hold – is scenario thinking.

Scenarios are descriptions of plausible alternative futures: they help us explore how certain trends, choices and uncertainties might play out over multiple pathways, as told through a series of short stories. Scenarios are not predictions – they are explorations. We don’t construct scenarios expecting to ‘get the future right’ or with the aim of ‘picking a winner’. Rather, we construct them with a view to describing a range of possible futures that we can step into, explore and learn from.

This section describes four possible scenarios for policing’s operating environment out to 2040. While no single scenario can describe the entirety of policing’s operating environment over a 20-year timeframe, multiple scenarios can go some way to portraying how key issues, trends and events might characterise a specific period – much like ‘austerity’ was a defining feature of the 2010s. We hope the scenarios we have created stimulate thinking and discussion about the future.

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The scenarios were generated in two stages:

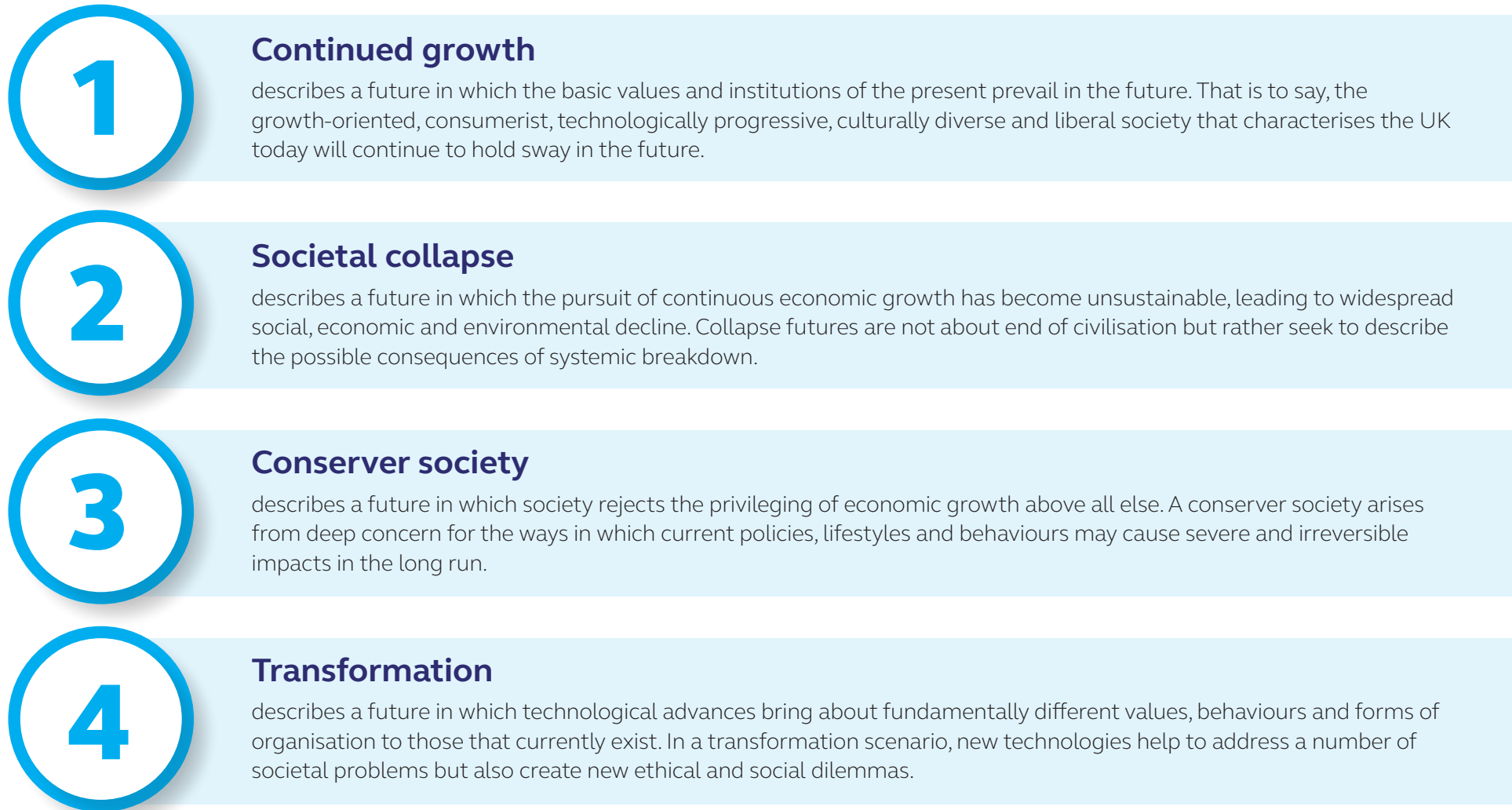
1. Data from the stakeholder interviews were combined with key insights from the futures literature to construct four 'raw' scenarios for policing's operating environment out to 2040⁷⁸. The raw scenarios were based on the concept of 'alternative futures', which uses the metaphors of 'growth', 'collapse', 'conserve' and 'transformation' to imagine and construct four alternative future worlds (see Figure 3)⁷⁹. This allowed us to develop high-level summaries and key features for each scenario.
2. To add depth and detail to the raw scenarios and develop their narratives, a workshop with 25 police officers, crime analysts, social scientists, 'futurists' and technologies was held⁸⁰. Participants at the workshop considered which trends would be most influential in bringing each scenario to pass, what impact they might have on the UK (in terms of society, technology, economy, the environment and politics) and what implications they might have for crime and policing. This resulted in a number of outputs which we then used to create the full scenarios described in this report.

⁷⁸ 'Operating environment' was defined at the contextual level, meaning that the focus was on describing how macro-level trends, issues and events (ie, broad, contextual factors largely beyond policing's control) might interact and intersect to shape policing's operating environment.

⁷⁹ Dator, J. (2009) 'Alternative Futures at the Manoa School', *Journal of Futures Studies*, 14(2), pp. 1-18.

⁸⁰ This approach to scenario generation is known as 'incasting'. It explores specific details of a possible future based on a generic scenario description.

Figure 3: Alternative futures framework



How to read the scenarios

The scenarios that follow are not meant to be exhaustive. Rather, they are designed to be both plausible and provocative, to engage readers' imaginations while also raising new questions about what the future might look like.

As you read the scenarios:

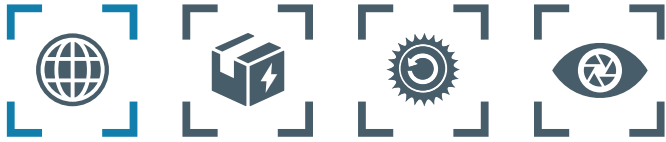
- Remember that the future doesn't exist yet. Scenarios are designed to spark new thinking about the future – not predict it.
- Focus on the reasons why the scenario might happen and what it would mean for current police goals, strategies and capabilities if it did.
- Focus on the overall direction and conditions each scenario creates rather than on the likelihood of specific details.
- Ask 'what do we need to be prepared for even if we think it unlikely', rather than trying to pick a favourite or most likely scenario.

We encourage readers to use these scenarios to begin a strategic conversation about preparing for the challenges and opportunities that might lie ahead. The scenarios should be re-evaluated as new developments emerge.

“The objective [of scenario thinking] is not to get a more accurate picture of the world around us but to influence decision making inside the mind of the decision-maker. The objective of good scenarios is better decisions, not better predictions”

Peter Schwartz⁸¹

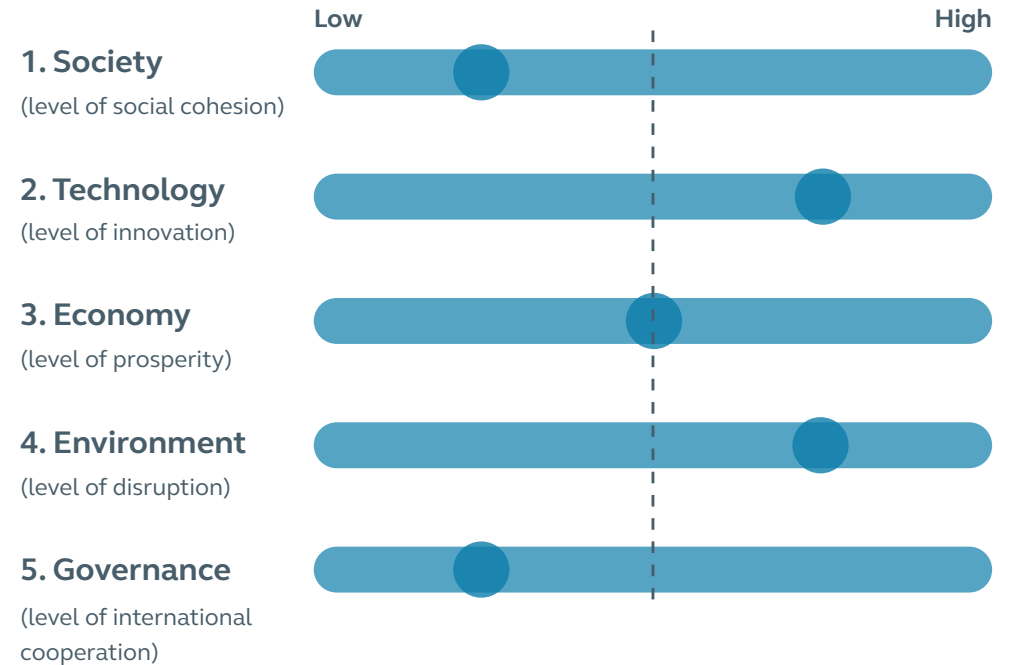
81 Schwartz, P (1996) The Art of the Long View



Scenario 1

Fragile Seams

This scenario **explores** a world growing increasingly fragile in the face of rising inequality, global warming and disruptive technologies. The scenario **highlights** the difficulties in responding to future demands for security (both virtual and physical) as societal tensions increase, new technologies create new threats and efforts to tackle divisive issues make limited headway. The scenario **underscores** the difficult choices policing might face in the context of global and domestic conditions that cause inequalities to widen, crime levels to increase and climate change to become increasingly disruptive.



Scenario 1 description

The first few years after the pandemic were tough. The health crisis soon turned into an economic and social crisis, generating upheaval in domestic and international politics and creating a more fragile, unequal world. Many of the worst aspects of the late 2010s intensified: international relations deteriorated and a new wave of nationalism swept across the globe. From Britain to Brazil, public demands for greater protection from market volatility, disruptive technologies and future disease outbreaks put massive pressure on governments to turn inwards and focus on domestic concerns.

It took a monumental effort – as well as several political casualties – to stop those who had lost faith in globalisation and international trade from pulling down the entire system. Ultimately the pandemic didn't fundamentally alter the global economy; instead it only accelerated a number of changes that had already begun, including a shift in economic, political and cultural power towards China and an increase in the reach and power of global technology companies. By 2022 the economy was growing again (thanks in part to a number of unprecedented bailouts) and a new type of pragmatic internationalism was starting to take shape. New international institutions were created to prevent 'contagion' and manage interdependencies.

And it was lucky that they were: organised crime, resource shortages and large-scale migration triggered by global warming were all getting worse and needed cooperation at every level of government – both domestically and internationally – to solve. But progress was slower than it needed to be. In the UK, climate change became the defining – and most divisive – issue post-2025, as carbon emissions continued to increase beyond safe levels and rising consumerism meant that demand for natural resources grew ever-more unsustainable. The impact on policing grew with time: protests increased in number, scale and disruptiveness; more frequent extreme weather events required crisis management; organised crime groups exploited water supply deficits and food shortages; and by the late-20s there were growing calls for policing to do more to identify and hold responsible the agents of anthropogenic change.

Meanwhile, the spread of artificial intelligence and automation technologies disrupted far more jobs and industries than economists expected, leading to large numbers of displaced workers and creating a mainstream political movement that increased pressure on the government to protect British workers. To tackle rising unemployment, a new form of 'corporate workfarism' started to emerge, with people – mostly low-skilled – paid minimum living wage for socially useful work such as maintaining parks, sweeping streets and working as school assistants – all of which was outsourced to private companies. This was set against further concentration of wealth in the richest households.

These conditions exacerbated societal tensions and led to a steady rise in crime. Poverty (especially in-work poverty) and populism proved a toxic mix, generating new forms of identity-based hate crime, extremism and protest. At the same time, advances in AI allowed organised criminals to automate large-scale scams, with the elderly, many living alone and making greater use of new technologies which provided virtual companionship, popular targets. And with more people staying home – working, learning, playing – the majority of crime now happened inside the home: domestic violence, child abuse and elder neglect were major issues. Burglary, though, had fallen, as had traffic collisions and assaults at (formerly) crowded bars. Drug deals were conducted almost exclusively through online sales and delivery platforms.

Meanwhile, sustained investment in AI, ‘smart’ cities, teleworking and remote learning had massively extended the reach and influence of global ‘tech’ companies. Their enhanced role in public services such as health, defence and transportation meant that some were even classified as critical national infrastructure – a position which allowed them to easily block regulation despite their lack of transparency and accountability. As digital surveillance expanded and AI matured, the access these companies had not just to people’s ‘digital footprints’ but to their verbal and physical cues meant that practical opportunities for maintaining privacy became almost impossible – a situation which shaped the balance of power in ways that many overlooked but others found unacceptable. While most voiced their objections through legitimate protest, there was a significant minority whose ‘Neo-Luddism’ mutated from individual frustration to collective resistance – both virtual and physical.

How did we get here?

Key developments that brought us here

- **The Covid-19 pandemic hit the economy hard** but ultimately proved to be a passing storm. With governments across the world coordinating their response and taking steps to protect incomes, jobs and businesses, the economy started to grow again – albeit tentatively – in 2021.
- **The perceived need to dedicate resources** to rebuild at home led to reduced commitment to tackling global problems, including climate change, large-scale migration and transnational organised crime.
- **‘Big tech’ gradually expanded** its reach and influence, providing new services in telehealth, remote learning, transportation and urban infrastructure. **Government regulation struggled** to keep pace with technological change.
- **Business and government deferred action** on climate change in the hope of future technological ‘fixes’. **Greenhouse gas emissions** continued to increase beyond safe levels and demand for resources continued on a ‘business-as-usual’ trajectory.
- **Technologies on the horizon in the late 2010s** matured into a variety of personal, commercial and government applications. **The spread of AI** and automation technologies displaced more jobs than economists expected but over time led to new pockets of economic strength and prosperity.

Early signs that signal a shift to this future

- **Income inequality** continues to grow and there is further concentration of wealth in the richest 10% of households.
- **Industries under pressure** from Covid-19 are bailed out by government. Business regulations are cut to get the economy moving again.
- **The employer-employee balance of power** shifts further towards employers. Many businesses treat Covid-19 as an opportunity to expand automation.

Police Constable MARCELA:

“I feel quite worn out by it all. There’s only so much we can do when the tech companies just ignore the harm that happens on their platforms.”

Chief Constable SARAH:

“Climate change has really stretched us. We’re providing disaster management, dealing with organised crime, enforcing new environmental protections – it’s one of our biggest sources of demand.”

Gang leader ALBERT:

“We saw these water shortages coming and got ourselves stocked up. We’re giving it out for free at the moment but we’ll be back for payment.”

Privacy activist TARIQ:

“All that data means they hold all the power - that’s not how democracy should work. We need to fight fire with fire.”

Key events and shifts in Fragile Seams

- **Between 2020 and 2025:** International rivalries and rising nationalism put globalism under intense pressure.
- **2021:** UK airline industry receives biggest ever state bailout.
- **Between 2020 and 2030:** UK economy grows at a moderate rate but begins to struggle in the face of increasing energy prices and growing resource constraints.
- **2029:** Water shortages in London, the midlands and the north-west trigger civil unrest and clashes with the police.
- **Between 2030 and 2040:** Global warming drives mass migration to Europe from sub-Saharan Africa.
- **2037:** Global food shortage as Indian monsoon fails for third straight year.

Implications for crime and policing

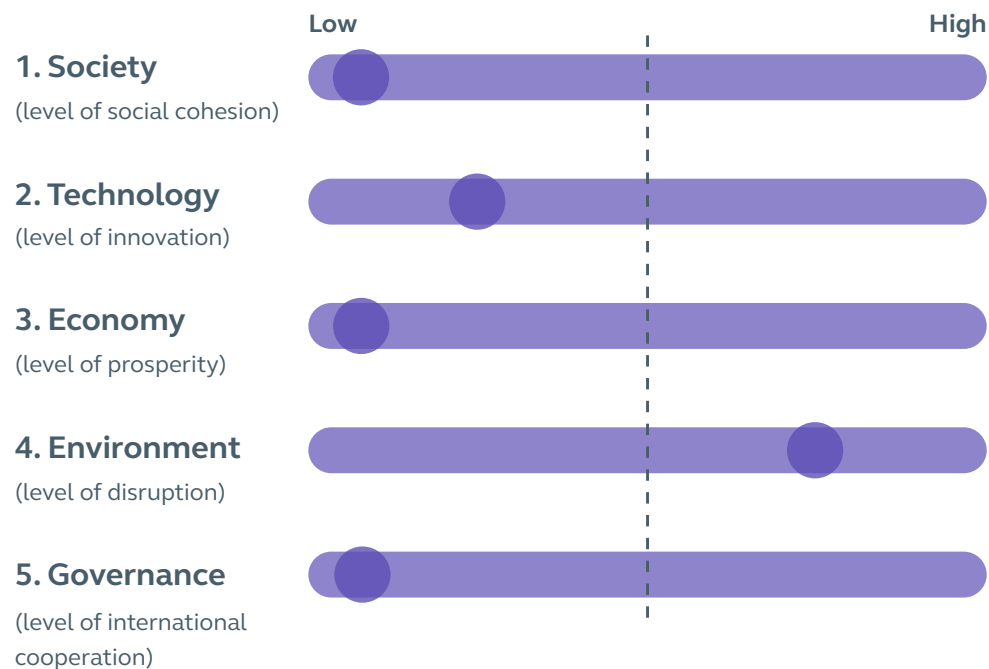
- If society continues to fracture along political, socio-economic and/or ideological lines, societal divisions are likely to become even more pronounced, with the police caught somewhere in the middle. It seems reasonable to question whether some traditional policing approaches, which have historically contributed to strained police-community relations and mistrust in the police, are capable of sustaining public trust under such conditions.
- In this scenario, the underlying drivers that have made the world increasingly fragile over the last several decades are left unaddressed, with serious implications for many people’s security, prosperity and wellbeing. Without significant intervention, issues such as inequality, automation, climate change and resource scarcity will increase the likelihood of societal upheaval, political grievances and violent disorder.
- In instances of food, water and other resource shortages (eg, fuel), counterfeit goods may be sold by organised crime groups, making buyers vulnerable to health and safety risks. Attempts to ration access to scarce resources could lead to tensions and outbreaks of disorder and/or violence.
- In this scenario, private sector investments in connectivity infrastructure (eg, 5G, ‘smart cities’, the internet of things) and AI systems put powerful resources – particularly data – in the hands of individuals and small groups, making their interests, actions and values more consequential than ever before. With such actors unencumbered by the burdens of accountability, transparency and regulation, policing, working with government, will need to find more effective ways of working with – and influencing – the security agendas of such actors.



Scenario 2

Pandora's Box

This scenario **explores** a shock-prone world in which economic and environmental disasters compound and feed each other, pushing the economy into recession, putting the social contract under strain and creating favourable conditions for criminals. The scenario **highlights** the possible consequences of systemic breakdown, including weak governance, widespread job loss and high levels of paranoia and mistrust. The scenario **emphasises** the pressure that such conditions would put on the police and highlights the choices that would either bring stability or exacerbate tensions.



Scenario 2 description

The pandemic hit everyone and everything. Currencies plummeted; businesses went under; supply chains collapsed; millions were left unemployed. The resulting recession was far worse than the financial crisis 12 years earlier. While the situation in the UK, Europe and the United States was especially dire, every part of the globe was affected. Many countries couldn't afford their locked-in costs, let alone compensate victims, repair damaged infrastructure or satisfy public demands for better healthcare and more security.

To protect themselves from future disease outbreaks and other global threats, countries turned inwards. Protectionism debilitated international trade and rampant nationalism made global governance almost impossible, preventing international cooperation on challenges such as organised crime, resource scarcity and migration driven by global warming. Traditional alliances crumbled and a number of international institutions – including the World Trade Organisation – collapsed. By 2030, the liberal, rules-based system that had governed international cooperation since the Second World War was a distant memory.

The collapse of multilateralism emboldened states to step up their cyber offensives. Disinformation campaigns and acts of cyberterrorism went into overdrive as more countries realised that cyber power was key to getting ahead in a competitive and digitally connected world. Data breaches,

electoral interference and denial-of-service attacks became widespread, with the effects often spilling over into local communities. Conspiracy theories regularly worked their way into the mainstream, leading to an increase in xenophobia, hate crime and vigilantism. Meanwhile, many of the technologies of disinformation became widely available, providing criminals (even those with little technical 'know-how') with a powerful weapon to commit online fraud, blackmail and harassment on a massive scale.

The escalation in cyberattacks occurred in parallel with turmoil in the natural world. Crop failures in Africa were followed by an extreme, early summer heat wave which caused deadly wildfires across Spain, France and Italy, resulting in billions worth of economic damage. The UK was not spared its own environmental disaster: in November 2025, torrential rain and a storm surge in the North Sea combined to overwhelm flood defences in Lincolnshire, Norfolk and Suffolk. It was the UK's biggest environmental disaster since the North Sea flood of 1953 and another blow to the country's economic recovery.

These bleak conditions put the social contract under enormous strain. Hundreds of thousands of jobs disappeared for good as some businesses went under and others sought to stay afloat by replacing their low-skilled workers with technology. The lack of retraining programmes meant those who were cast aside were left without work for years at a time. Meanwhile, dozens of local authorities lost control of their finances, forcing deep cuts to welfare services which still hadn't recovered from the austerity of the 2010s. While initially citizens believed the government when it said there was little it could do in the face of a deep global recession, it wasn't long before the

mood changed and those left hopeless, jobless and without assets started to push back – some violently.

With opportunity frozen and safety nets dissolving, growing numbers of people turned inwards to their families, communities and traditional cultures. Trust was afforded to those who engendered a sense of security or belonging – both online and offline. While some turned to religion, spiritualism or extremism, others sought the protection of organised crime groups. Right wing groups gained momentum, emboldened by a sense that nationalism (which they called patriotism), xenophobia and racism were now socially and politically acceptable. As divides deepened, public discourse became dominated by abuse, scapegoating and misinformation, making it even harder for people to find common ground and heal the divisions.

Organised crime groups also extended their influence, reaching into communities where unemployment, mistrust and alienation had led to a sense of desperation. By the mid-2030s, drugs, weapons and counterfeit products were being moved through underground channels with such ease and at such scale that many states could no longer protect their borders or guarantee the security of their people.

How did we get here?

Key developments that brought us here

- **Governments around the world turned inwards** to protect their populations in the face of economic decline and future disease outbreaks. **Protectionism created fierce international competition** and diverted attention and resources from a number of urgent global problems.
- **A synchrony of economic, environmental and humanitarian** disasters pushed an already overheating global economy into a deep and prolonged recession. **Government finances collapsed** in many countries and failed states became more prevalent.
- **Widespread job displacement, frozen opportunity and evaporating safety nets** created the conditions which allowed crime – and criminals – to thrive. Many low-level crimes started to be seen as more socially acceptable.
- **As the rules-based international order crumbled**, digitally capable nations stepped up their attacks on the political, economic and informational assets of their adversaries. **Widespread access to technologies** which allowed people to create highly convincing but fake videos, audio and text led to an exponential rise in crimes based on deception and manipulation.
- **Rising nationalism and a polarised information and media environment** created a perception that racism and xenophobia were socially acceptable.

Early signs that signal a shift to this future

- **The aftermath of the Covid-19 pandemic** is dominated by ‘blame games’ and political recriminations. Several governments refuse funding for international institutions.
- **A proliferation of easy-to-use ‘deep fake’ apps** leads to an increase in fake yet convincing videos of celebrities, politicians and other public figures.
- **Unemployment hits 10%** and the government struggles to meet an increasing welfare burden.

Police Constable NAOMI:

“Just last week I saw a video of a colleague which had been doctored to make it look like he had racially abused a young boy.”

Chief Constable MARTIN:

“Disinformation has become mainstream. Politicians, celebrities, victims of abuse, my officers – they’re all being targeted. We’re swimming in a sea of stuff we don’t understand.”

Hacker MOLLY:

“These ‘deep fake’ apps have made my job 10 times easier. I can make three or four videos in a single day; it used to take me a week to make just one.”

Gang member VICTOR:

“I’m flat out. The market for synthetic drugs, fake food and 3D-printed masks is huge and extremely lucrative.”

Mum RAHEEMA:

“I feel so anxious every time I step outside. I’ve been racially abused three times this week already – they feel like they can just get away with it.”

Key events and shifts in Pandora’s Box

- **2020:** Great Collapse occurs with most economies falling into a deep and prolonged recession.
- **Between 2020 and 2030:** Disinformation becomes an increasingly disruptive – and dangerous – part of many people’s everyday lives.
- **2027:** Series of fires at UK power plants attributed to hacker group with links to foreign government.
- **Between 2025 and 2040:** Environmental disasters and extreme weather events across the world (recurring heat waves, earthquakes, flooding, etc.) put stress on an already overheating global economy.
- **2034:** Man-made virus escapes from laboratory and starts to spread around south-east Asia.

Possible implications for policing

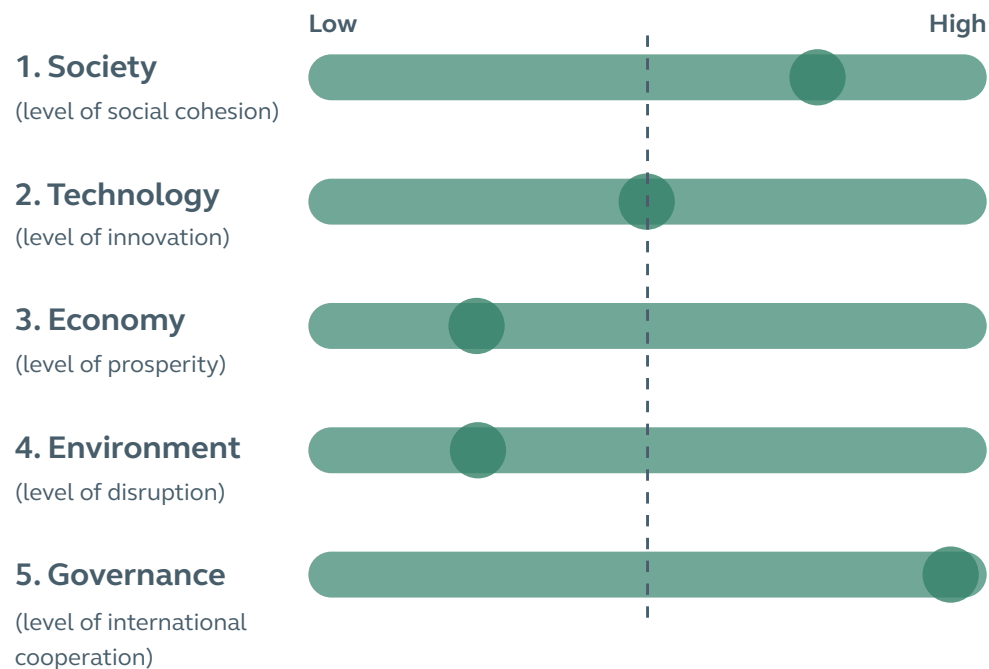
- Disinformation and acts of cyberterrorism are common in this scenario, with their effects frequently spilling over into local communities in the form of mistrust, social tensions, civil unrest, data breaches and energy blackouts. Designing and delivering interventions that not only diminish such processes but also enable positive counter-influences will be an important component of responding to future crises.
- Individuals and communities could seek new forms of protection and security in the face of frozen opportunity, cyber-vulnerability, social fragmentation and the growing impact of climate change. Policing will have to work with a variety of actors to protect people in these contexts and to ensure that illegitimate providers of security (eg, organised crime groups) don’t extend their reach and influence.
- Deteriorating economic conditions and increasing pressure on police resources (from civil unrest, organised crime, the scale of cybercrime) could lock policing into a reactive and defensive stance. The need to focus on clear and present threats would leave little time or resources for upstream prevention.
- Social, economic and environmental pressures could create human stresses that increase the prevalence of gender-based violence, including crimes such as domestic abuse, human trafficking, forced prostitution and forced marriage.
- The likelihood of large-scale protests and outbreaks of disorder is high in this scenario, as large numbers of people under significant stress seek ways to oppose the causes and consequences of social, economic and environmental decline.



Scenario 3

Green Reset

This scenario **explores** the issues surrounding a restructuring of the global economy that leads to a more sustainable and equitable world. The scenario **describes** how a shift to post-materialist values, a more interventionist state and new modes of production and consumption give rise to a new relationship between people and planet. The scenario **considers** the changing nature of the police role as this transition takes place, focusing on what new threats, challenges and demands might emerge and which old ones might recede.



Scenario 3 description

The pandemic of 2020 signalled the start of a new future for many countries. Given the scale of economic damage, societal collapse and political turmoil the pandemic unleashed, it was little surprise that the initial response was dominated by blame games and heated attacks on international institutions. Yet beyond the rhetoric a more positive counter-current was developing, as the increasingly visible effects of inequality, discrimination and global warming pressed both citizens and governments into urgent, coordinated action. By 2025, with the global economy settling into a low growth, low productivity equilibrium and regime change taking place in many countries, a more open and progressive internationalism had taken hold.

While the global response to global challenges improved, many businesses sought to reduce their exposure to 'contagion' by shrinking their multi-step, multi-country supply chains. In the UK, greater onshoring of production, even though it meant higher prices, went some way to stabilising employment – as did government programmes which retrained those who had lost their jobs to work in green industries. Meanwhile, advances in additive manufacturing (3D printing) meant that local producers were able to create products designed by geographically dispersed communities of scientists, designers and enthusiasts collaborating over the internet. The downside was an increase in the availability of 3D-printed weapons, synthetic drugs and counterfeit products, as well as an exponential rise in the number of cyberattacks aimed at stealing intellectual property.

The shift to more inclusive and sustainable modes of production benefited both planet and people. Pollution and waste decreased as a result of less energy consumption and resource use. Stress reduced and people were generally content to accept a lifestyle plateau once a certain level of affluence had been attained. Income inequality started to decrease as a result of progressive tax policies and less pursuit of material affluence beyond what was considered a 'comfort zone'. A certain segment of wealthy consumers were unwilling to accept the compromises on their quality of life and fled to other countries where it was possible to purchase the lifestyle of choice.

By the late-2020s a more purposeful approach to reducing carbon emissions created new legal mechanisms which required robust policing. Following its successful introduction in Australia, the UK introduced a system of carbon credits, accessed through a simple app, which rewarded and sanctioned people based on their carbon footprint. The system was critical in helping the UK meet its net zero targets but was highly vulnerable to criminal activity such as fraud, identity theft and money laundering. Meanwhile, the need to manage water shortages, which were becoming increasingly frequent in major cities, led to an increase in calls to police about people wasting water.

The need to exercise – and enforce – restraint meant that crime was increasingly defined and motivated by the limits society had placed on itself. Anyone whose lifestyle exceeded those limits, from car and water usage to acting in ways that put public health at risk, became the target of 'social shaming' tactics which ranged from abuse by strangers to targeted online campaigns by environmental activists. While with time these limits became

increasingly normalised, they at first created a tension between the need to enforce new environmental and public health regulations and protect people from abuse and harassment. The limits also created a number of libertarian resistance groups (with considerable media backing) who cast the government and the police as oppressive.

Government also showed greater willingness to regulate disruptive technologies. As the harm caused by online abuse and disinformation became clearer, new laws were passed which required technology companies to do more to counter electoral interference, prevent cyberbullying and protect users' data – a move which went some way to cleaning up the online information space. At the same time, activists, labour unions and a small but influential group of tech-entrepreneurs were instrumental in ensuring that AI benefitted human interests: in 2031, more than 60 countries, including the UK, signed-up to an 'Ethical AI' accord featuring ethical use principles and intervention criteria. Meanwhile, automating someone's job was allowed only where it was shown that appropriate retraining opportunities were in place, leading business to argue that strong technology regulations had stifled innovation, pushed up costs and curbed adoption.

How did we get here?

Key developments that brought us here

- **Covid-19 undermined the basic tenets** of globalism, forcing businesses to rethink and shrink their multistep, multi-country supply chains. **Trade patterns shifted** as countries favoured regional trading blocs and bilateral trade agreements over comprehensive global arrangements.
- **Government set out to rebuild the economy** with big investments in public infrastructure (eg, schools, public housing, green-energy) and resilience. **Government became more interventionist** on a range of social, economic and technological issues.
- **Greater awareness of the societal and environmental impacts** of global warming and natural resource-use led to a new relationship between people and planet.
- **Electorates started to favour** political parties who prioritise environmental protections, progressive tax policies and stronger welfare systems.
- **Disruptive technologies** such as AI, robotics and synthetic biology were subject to tighter regulation, aligning their use with the public interest.

Early signs that signal a shift to this future

- **The downturn in global trade endures** beyond 2021 as many businesses scale down their complex global supply chains.
- **Discussions about Universal Basic Income** move into mainstream political discourse.
- **Calls for the regulation of disruptive technologies** such as AI, automation and synthetic biology start to gain traction.
- **Demands to look again** at how those who carried the country through the pandemics (eg, nurses, cleaners, carers, delivery staff) are valued and rewarded gain traction.

Police Constable SAM:

“We’re doing things I never thought we’d be doing. Last week some guy called us because his neighbour had broken the hosepipe ban.”

Chief Constable ANDY:

“As society has placed new limits on itself we’ve been drawn into policing people’s lifestyles. It’s a very delicate balance we have to strike”.

Hacker PIOTR:

“I get approached every day about hacking the blueprints for some new product, weapon or drug. It’s big business”.

Libertarian activist: KENDRA:

“The state is just using the climate crisis as a cover for more surveillance and control. What’s happening to all the data from the carbon credit scheme?”.

Teenager NOMI:

“We’ve grown up with surveillance so it doesn’t bother us. We’re just happy it’s being used to help the environment”.

Key events and shifts in Green Reset

- **Between 2020 and 2025:** Political regime change in several major powers.
- **Between 2020 and 2030:** Government invests in the infrastructure needed to transition to an economy based on renewables.
- **2025 onwards:** Water rationing and individual carbon credits start to operate on an intermittent basis.
- **2030 onwards:** The UK economy has adapted to economic restructuring and entered a path of moderate growth.
- **2034:** Crime of ‘ecocide’ added to the Rome Statute and becomes prosecutable at the International Criminal Court (ICC).

Possible implications for policing

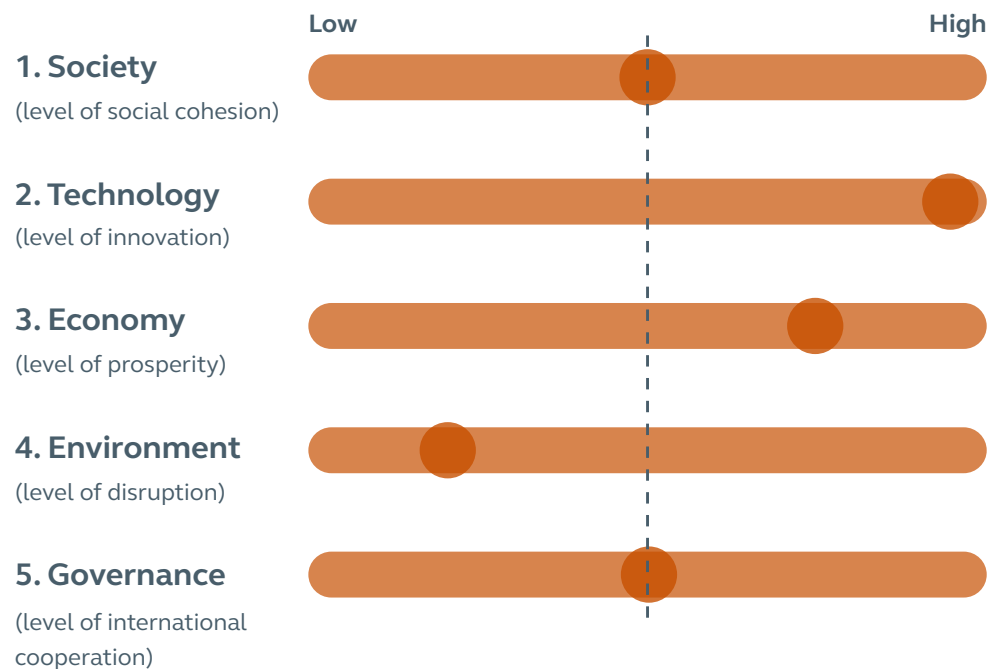
- This scenario sees policing drawn into enforcing a number of ethical limits that society has placed on itself in an attempt to prevent and/or manage future disease outbreaks and the effects of climate change. While with time these limits become normalised, they at first create a tension between enforcing environmental and public health regulations and protecting people from abuse and harassment.
- Many of the causes of crime such as poverty, status deprivation and a lack of economic opportunity are less prominent in this scenario. This means there is less demand resulting from many traditional crimes (violence, theft, burglary) than in the other scenarios.
- In this scenario, the ‘violence paradigm’ that has defined most countries’ definitions of national security since the Cold War is supplemented with a ‘human security paradigm’ focused on viral, ecological and economic threats. This would broaden the national security infrastructure and require policing to work with a more diverse range of partners to enforce environmental and public health regulations.
- Technological advances which support a shift towards a ‘Design Global, Manufacture Local’ paradigm for producing goods could increase access to 3D-printed weapons, synthetic drugs and counterfeit products, as well as drive an increase in intellectual property theft. Many of these illicit goods are likely to be of poor quality or downright dangerous.
- In a future where prioritising the environment is a key priority for the public, politicians and government, policing will come under increased pressure to ‘play its part’ through efforts to decarbonise both its estate and fleet.



Scenario 4

Black Mirror

This scenario **explores** the emergence of a high-tech world characterised by mass surveillance and high levels of technological convergence. The scenario **describes** how advances in ‘next generation’ technologies help to address some of society’s most pressing problems but also increase the power of technology companies in ways that some people find unacceptable. The scenario **considers** the benefits and risks of operating in an emerging surveillance society as well as the challenges of keeping pace with rapid technological advances.



Scenario 4 description

It wasn't long before the emerging technologies of the late-2010s started to blossom. The pandemic slowed things down for a while but the trillions on balance sheets that remained uninvested after the 2008 financial crisis soon poured into companies working on AI, biotechnology and 'smart' cities. The results were impressive: at times it felt like hardly a week had gone by before another breakthrough was announced on the blog of some tech CEO. The race to develop artificial general intelligence (AGI) was especially fruitful, spawning hundreds of technologies that helped address some of the world's most pressing problems, from pollution, water scarcity and crop failure to corruption and money laundering.

Much of AI's success was down to a rapidly expanding digital infrastructure, which provided nascent AI systems with the feedback they needed to learn, adapt and get smarter. The most important developments were in transport, agriculture, manufacturing and energy production – all of which benefitted from advanced data analytics and more efficient production methods. Hyperconnectivity (5G) and ubiquitous computing led to countless new products, services and experiences, including a 'sensor-cloud system' which allowed drones to improve their energy efficiency (thus becoming faster and flying for longer) by offloading computationally intensive tasks to the cloud. It didn't take long for drug traffickers to take advantage.

Fortunately, many of these technologies augmented, rather than replaced, traditional jobs. Campaigners, labour unions and a small but influential group of tech entrepreneurs worked tirelessly to ensure that AI and automation benefitted rather than hurt human workforces. Yet some disruption to jobs, work and the economy was inevitable. The reality in some sectors was that humans simply couldn't learn as fast or work as hard as many AI/robotic systems. Some jobs and industries became unviable, a reality that led to rising unemployment – and related problems of cyber addiction, mood engineering and synthetic drug use – in many parts of the country.

By the mid-2030s, the transition to a high-productivity, low-scarcity economy was reshaping work culture and social norms. Automation addressed labour and skill shortages and four-day weeks became the norm in most sectors. At the same time, the ubiquity of digital assistants, virtual/augmented reality and hologram technologies meant that most social interaction was now digitally mediated – a trend that resulted in new forms of anti-social behaviour and changes in the form and function of physical communities (the latter weakening many people's sense of civic responsibility). The long-term psychological effects of 'techno-individualisation' were also becoming clear, as psychologists started diagnosing a multitude of new anxieties, addictions, empathy deficits and social intelligence disorders.

Increased social and emotional dependency on technology was ruthlessly exploited by criminals. The symbiosis between people's bodies, the products they consumed and the (digital and physical) spaces they inhabited gave rise to novel forms of cyber 'treachery' – most of which couldn't be predicted, even by the advanced AI systems that were now part of routine, everyday police work. DNA hacking, identity theft, digital stalking and synthetic drug piracy were widespread. Digital supply chains came under regular attack, as hackers looked for vulnerabilities that would allow them to steal corporate secrets and 'hacktivists' looked for ways to spoil the profits, stock value and reputation of businesses whose values they disagreed with. Since the police had so little expertise in these types of crimes, people looked elsewhere, particularly to private actors, to resolve their tech crimes and online issues. As a result, decisions about what online harms to govern, how to govern them and who benefitted increasingly fell to profit-driven private actors rather than the state, raising important questions about policing's utility in a hyperconnected world.

By the late-2030s it was increasingly clear that unequal access to technology had increased the gap between the 'haves' and 'have nots'. While on one hand this simply added new layers of exclusion to the already marginalised (by preventing access to information, services and economic opportunities), advances in 'human improvement' technology meant that new divides started to emerge between 'pristine humans' and tribes of the enhanced, augmented and genetically optimised. Discrimination worked both ways: while those who could afford augmentation and optimisation looked down on and found new ways to discriminate against the unenhanced (eg, in recruitment), those who remained 'pristine' wore it as a badge-of-honour and became increasingly cruel and abusive towards the 'enhanced'.

How did we get here?

Key developments that brought us here

- **The pandemic sparked a vast** global exercise in collective intelligence and collaborative open science which persisted across the two decades. This accelerated the race to develop AGI, spurring major advances in medical diagnosis, energy-efficiency and national security.
- **'Big tech' grew more powerful** than ever, controlling ever-more personal data, critical to the delivery of public services and able to block or circumvent attempts at regulation.
- **To keep pace with China's growing** political, economic and cyber power, many countries embraced public-private partnerships in mass surveillance and data collection. **Practical opportunities to maintain privacy** all but disappeared.
- **The transition to 'intelligent' industry and society** reshaped the UK's economic culture. Automation addressed labour and skills shortages, four-day weeks became the norm and ways of working became hyper-individualised.
- **Unequal access to new digital technologies** led to a rise in inequality both within and between countries. **Those without access** were increasingly excluded from education, employment opportunities and access to important services, adding a new layer of exclusion to the already marginalised.

Early signs that signal a shift to this future

- **Schools, universities and workplaces** significantly increase their use of remote learning and working.
- **Advances** in AI, biotechnology and quantum computing occur quicker than many experts expect.
- **Privacy and data security protections** are loosened under the guise of preventing and managing future disease outbreaks.

Police Constable SADIYAH:

“With so many people learning remotely and working from home we’ve seen a big increase in intrusion to online work and play. Some of it’s been really sinister”.

Chief Constable DIONNE:

“Many traditional crimes have been diminished, but what’s left is really, really sophisticated. And I’m worried because we’re getting left behind – most people are looking elsewhere to resolve their tech crimes”.

Tech CEO ANUJA:

“Humans are biohazards – machines are not. We’ve worked with companies that have automated half their workforces.”

Cyber-social worker ANNA:

“Cyber addiction and mood engineering have become huge problems. Social anxiety, anti-social behaviour and gaming-related deaths and suicides have all increased”.

Key events and shifts in Black Mirror

- **Between 2020 and 2025:** Private investment pours into companies working on AI, renewables, biotechnology and ‘smart’ cities.
- **2023:** British army creates non-human resources department.
- **2025 onwards:** Technological advances drive transition to ‘intelligent’ industry and society.
- **2028:** ‘Neo-Luddist’ terror group attacks AI labs across UK.
- **2030 onwards:** Advances in crime prevention technologies mean many crimes require significant technical ‘know-how’.
- **2034:** Driverless cars and lorries approved for use on UK roads.
- **2037:** Subconscious prejudices ruled admissible for police vetting.

Possible implications for policing

- Technological ubiquity could fundamentally change the relationship between citizens and the state, as education, health care, work, lifestyles and taxation models are altered. This change could occur over an extended period of time and would therefore require strategic choices that endure beyond typical planning cycles.
- As more of the demands on policing stem from the convergence of ‘next generation’ technologies such as nanotechnology, AI, biotechnology and cognitive science, the need for – and value of – multidisciplinary teams with a blend of ‘hard’ skills (eg, advanced digital forensics) and ‘soft’ skills (eg, creativity and collaboration) will increase.
- The growing influence of private regulators and security actors – particularly in online spaces – will make it necessary for policing to think differently about its role and its strategic alliances. New forms of cooperation will be required to achieve effective partnership working across bureaucratic, jurisdictional and disciplinary boundaries.
- Policing will need to proactively contribute to the debate on its use of new technologies (eg, AI) if it is to secure public trust and confidence. An important part of this will involve working with partners to develop frameworks – eg, technical standards, ethical use principles and intervention criteria – for the use of such technologies in a wide range of policing activities. Being left out of these debates could require policing to adapt to external regulation of technologies that it has become accustomed to using in highly specific ways.
- In this scenario the vast majority of police-community engagement takes place online. While this shift could, in principle, enable policing to engage more directly with people from diverse backgrounds, it will also create new principles and mechanisms for signalling trustworthiness that policing will need to adapt to if it is to sustain public trust.

Scenario reflections and implications

These scenarios are not predictions. Rather, they are descriptions of alternative views of the future, each of which reflects the possible workings of important trends, value systems, technological developments and socio-economic structures that are either already established or clearly emergent in the UK and beyond. It is likely that some developments that we have not considered will prove significant over the period of the scenarios.

It is important to note that the scenarios – and the challenges and opportunities they describe – are not necessarily mutually exclusive. Indeed, the future that ultimately comes to pass will likely contain elements of all four scenarios, albeit at different levels of intensity. Considering all four scenarios fairly and fully (rather than picking a ‘most likely’) can help ensure that the decisions we take today are rooted in a better understanding of the potential risks, challenges and opportunities that could arise in the future. Figure 4 describes the unique and common elements of the four scenarios.

In ‘Fragile Seams’, policing’s operating environment is increasingly shaped by a lack of progress on major challenges such as inequality, climate change and technological disruption, particularly disruption caused by artificial intelligence and automation. While the impact of these issues is often more acute in other parts of the world, they increasingly affect the prosperity, security and wellbeing of people living in the UK. For

example, climate change gradually becomes a more disruptive part of many people’s lives and livelihoods, in the process placing new and more pressing demands on policing, from crisis management to public order policing to the enforcement of new environmental regulations. At the same time, ‘Fragile Seams’ also describes a heightened version of present-day society, with its consumerist, profit-driven tendencies creating socio-economic disparities that undermine social cohesion and create the conditions for high levels of crime. Although it doesn’t reach the point of systemic breakdown (as in ‘Pandora’s Box’), ‘Fragile Seams’ is arguably the scenario where social, economic and technological change is most likely to give rise to societal upheaval, political grievances and citizen pushback.

The global context is also salient in ‘Pandora’s Box’, because it is the combination of economic, environmental and geopolitical shocks, their effects feeding and compounding each other, which exerts the main influence on policing’s operating environment. While the emphasis is on how a lack of international cooperation, frequent environmental disasters and an escalation in state-led cyberattacks could put enormous pressure on an already overheating global economy, the key takeaway is that concurrent crises can create stresses which lead to systemic breakdown. Crucially, the domestic conditions this breakdown creates, such as high unemployment, weak government finances and high levels of fear, mistrust and insecurity, are key drivers of the demands and challenges facing policing. In this scenario, there is considerable pressure on policing to adopt a more reactive and defensive stance, even though this would exacerbate tensions.

In 'Green Reset', change is driven by a growing recognition among citizens and politicians that current policies, lifestyles and behaviours will have a damaging – and potentially irreversible – impact in the longer term. Societal and political concerns about socio-economic inequalities, ecological degradation and unchecked technological 'progress' drive changes in policy, regulation and behavioural incentives. The dominant ethos behind the change is one of 'enlightened self-interest', which is shared by enough countries, communities and individuals that it drives a shift towards 'post-materialist' values. While this shift alleviates some of the underlying stresses that are known to cause crime, it also draws policing into enforcing – and policing the consequences of – the new limits that society has placed on itself to halt long-term decline.

Like in 'Green Reset', change in 'Black Mirror' is largely positive in terms of its effects on people's prosperity, security and wellbeing. The causes, nature and implications of this change are, however, very different. In 'Black Mirror' there is a strong belief that innovation and advances in technology, rather than policy and/or behavioural change, will solve many of society's current and future problems. In many ways this belief is proved right, as large investments in AI, renewable energy, biotechnology and 'smart' cities lead to improvements in people's health and prosperity. While the 'high-tech' society that emerges is full of opportunities for improving crime prevention and public safety, it also creates a myriad of novel, increasingly complex crime threats which policing struggles to keep pace with. At the same time, many of the benefits of a high-tech society are unevenly distributed, with unequal access to technology driving another wedge between the 'haves' and 'have nots' and creating new forms of inequality and discrimination.

Figure 4: unique and common elements of the scenarios

Fragile Seams

Moderate (but fragile) economic growth
Rising inequality
Crime rooted in entrenched socio-economic and cultural issues
Technological change out-paces regulation
Gradual but significant increase in demand on policing from climate change
Growing reach and influence of 'Big Tech'

Downturn in global trade
Smaller and more managed economy
Less inequality and pursuit of material affluence
Definition of national security incorporates public health and environmental protection
Increased focus on people and planet leads to new ethical limits that require policing
Technology is regulated with public interest in mind

Green Reset

Pandora's Box

Prolonged global recession
Frequent economic and environment crises with cascading impacts
Weak government finances
High levels of fear, mistrust and anger
Digital surveillance used repressively
Lack of international cooperation (including law enforcement)
Xenophobia and racism seen as more socially acceptable

Common elements

Climate change has an increasingly disruptive impact on many people's lives and livelihoods
Emerging technologies create novel and complex crimes
Greater volume and resonance of digital disinformation
Increases in the surveillance capabilities of citizens, states, private companies and criminal networks
Increased use of AI and automation in most sectors
High levels of disruption to jobs, skills and business models
Growing reach and influence of 'Big Tech'
Significant challenges to police legitimacy

Digital economy drives economic prosperity
Emerging technologies solve some societal challenges
High levels of social and emotional dependency on technology

AI enables powerful surveillance and crime prevention tools
Unequal access to technology fuels inequality
'Big Tech' controls large parts of critical national infrastructure

Black Mirror

Part 3

Future challenges



Part 3: Future challenges

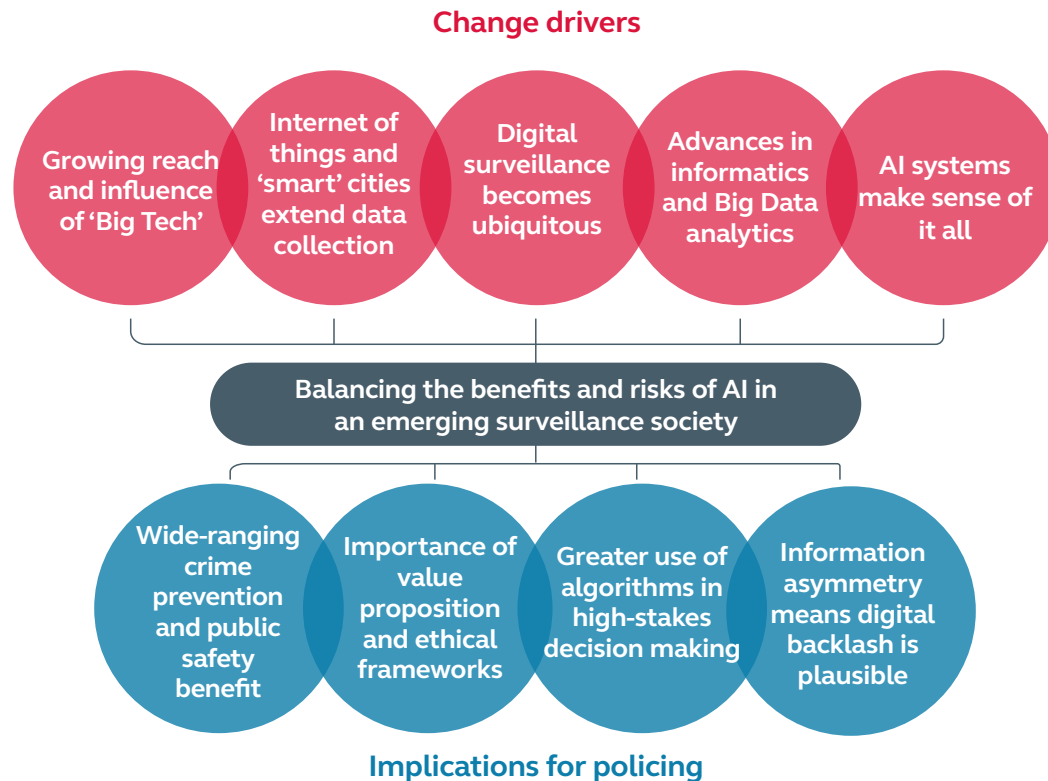
Analysis of the trends and scenarios described in this report suggests that policing will face five key challenges over the next 20-years. Each challenge will take up an increasing amount of policing’s ‘bandwidth’, adding new layers of complexity to existing demands and raising important questions about how policing is organised, resourced and governed. Yet they are also challenges which can be met – so that threats are diminished and opportunities are capitalised on – if policing starts to prepare for them today.

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Challenge 1: Balancing the benefits and risks of AI in an emerging surveillance society



“We’re not living in the 21st century in policing at the moment. For us to be a proper part of the future, we’ve got to get our act together on things like AI, to use it to our advantage”

Superintendent

AI has the potential to vastly improve policing’s ability to prevent crime, manage its resources more efficiently and coordinate fast-moving responses to major incidents. Crime prevention and criminal investigation teams could use AI to speed up the identification of criminals and their motives. Neighbourhood policing teams could use it to gain a better understanding of community dynamics that help them achieve greater community support.⁸² Major incident commanders could use AI systems to improve situational awareness and better visualise potential strategies and tactics.⁸³ And police call centres could use AI systems to more efficiently route responses to calls for service. These use cases are all examples of ‘narrow’ AI that is developing rapidly and assuming responsibility for a growing number of tasks within everyday life.⁸⁴

In the context of crime prevention and public safety, many applications of AI involve the use of ‘human profiling’ systems which collect and interpret information about people’s interests, behaviours, movements and physical characteristics to forecast future behaviour and inform decision-making. In countries where this is already happening, surveillance cameras, biometrics and machine learning systems are used to track fugitives, profile potential future criminal activity and provide alerts if people considered ‘dangerous’ move into areas which are restricted according to their profiles. Such systems bring obvious benefits in terms of public safety but also raise a number of ethical dilemmas. For instance, while facial recognition technologies allow police and law enforcement to detect and disrupt obfuscated threats, they can also be used to collect data in support of political subjugation.⁸⁵

⁸² See <https://www.nesta.org.uk/blog/making-case-ai-policing/>

⁸³ Cerri, T., et al. (2018) ‘Using AI to Assist Commanders with Complex Decision-making’. I/ITSEC Paper 18072.

⁸⁴ ‘Narrow’ AI is very good at performing a narrowly defined task (eg, detecting a specific image in a large dataset of images). ‘General’ AI is capable of successfully performing any intellectual task at a level comparable to or better than a human being.

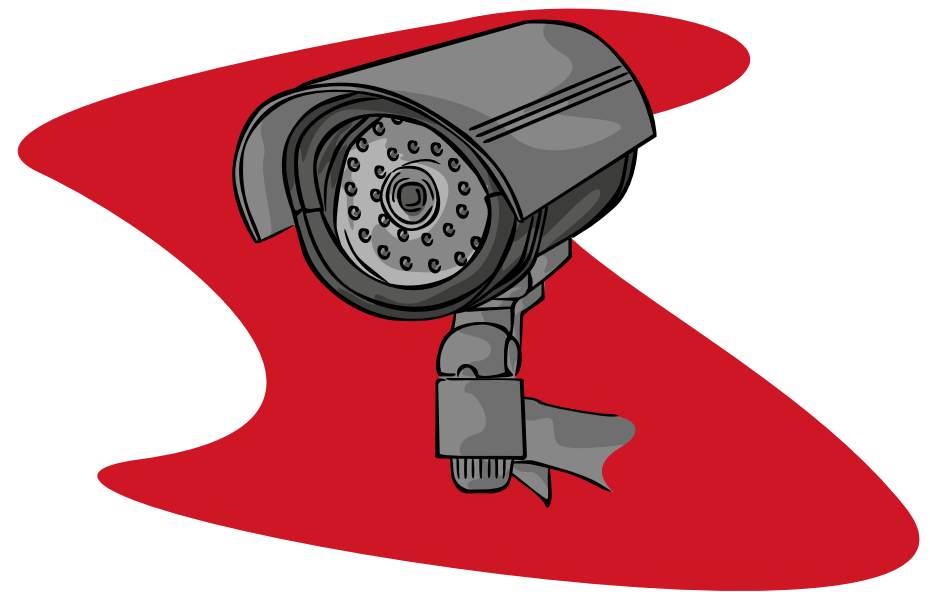
⁸⁵ See <https://carnegieendowment.org/2019/01/09/how-artificial-intelligence-is-reshaping-repression-pub-78093>

Challenge 1: Balancing the benefits and risks of AI in an emerging surveillance society

While current profiling systems typically analyse a person's 'digital footprint' (eg, their internet presence), future systems could possess the ability to interpret people's moods, emotions and (hidden) intentions based on verbal and physical cues. For example, advances in neurotechnology could allow us to monitor brain 'events' in ways that are not currently possible, with information 'downloaded' from the brain being used to control devices or obtain knowledge of a person's intentions.⁸⁶ At the same time, digital assistants, sensors, self-driving vehicles and aerial delivery drones will have a growing presence in everyday life, many equipped with audio and video systems capable of collecting and interpreting highly personal information. The 'deep surveillance' these technologies make possible would effectively dissolve the boundary between public and private spaces.

“When I think about AI my concern is that this kind of technology gives new meaning to an age-old worry about the state having all kinds of power to encroach on our lives”

Professor



Such developments have the potential to create a society where practical opportunities for maintaining privacy are extremely limited (where 'opting out' is no longer feasible) and where access to information about people's lives can shape the balance of social, economic and political power in ways that some people find unacceptable (but which others may welcome). Significantly, those who collect and control this information, including the police, could find themselves in a situation where they know more about individual citizens than citizens know about themselves. This makes a digital backlash plausible: if privacy

⁸⁶ See [https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613\(18\)30092-5](https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(18)30092-5)

Challenge 1: Balancing the benefits and risks of AI in an emerging surveillance society

is no longer viable because surveillance is ubiquitous, both in public and private spaces (including our bodies), 'Neo-Luddism' (a philosophy opposed to many forms of modern technology) could evolve from an individual reaction to collective resistance or even a mainstream political movement.

"I don't think we understand the implications of AI yet. There's a vacuum in thinking and narrative around the values and ethics of AI and what it will do for policing. There seems to be a race to move towards that technology without thinking about the implications"

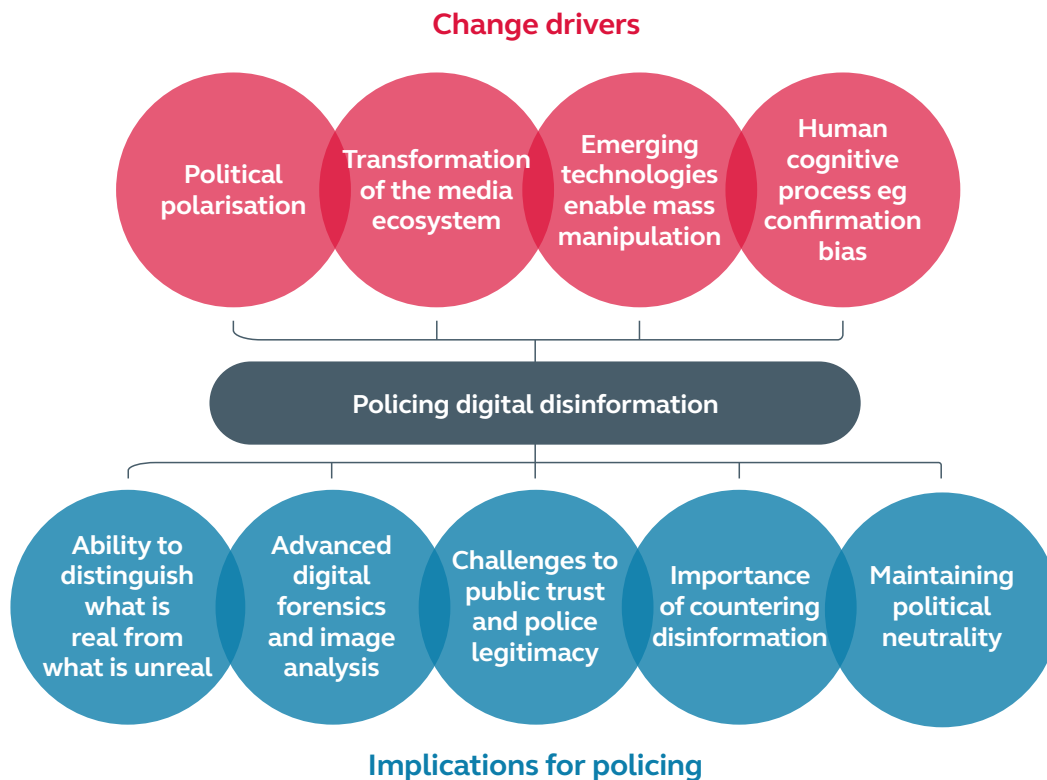
Senior representative of police staff association

If policing is to strike the right balance between the benefits and risks of AI in an emerging surveillance society, it will need to work closely with citizens, government and private sector partners to develop a clear value proposition – as well as ethical use principles and intervention criteria – for its use across the full spectrum of policing activities. With policing still in the early stages of its 'AI journey' there is ample opportunity for ethical frameworks and regulation to be developed up front. Focusing on what AI should do, not what it can do, will be critical to building public trust. The end result could be a 'good surveillance society' which delivers wide-ranging social benefits balanced against practical anonymity and a right to not be interfered with.

Key questions for policing:

- What is the value proposition for using AI and 'human profiling' systems across different policing activities?
- How can policing ensure that it uses AI in a way that builds rather than undermines public trust?

Challenge 2: Policing digital disinformation



“Another thing I think is going to be a big one is the mainstreaming of disinformation. We’re starting to see this coming into policing now: sexual assault victims subject to disinformation campaigns; police officers subject to disinformation campaigns. I think we’re going to be swimming in a sea of stuff where nobody knows what’s going on”

Professor

The use of disinformation to artificially shape public opinion online is likely to grow in both scale and sophistication over the next 20 years. As well as posing a direct threat to individuals and communities (eg, through its use to commit blackmail or stoke racial tensions), the way in which disinformation can be used to manufacture consensus, undermine social cohesion and blur the boundaries between ‘real’ and ‘unreal’ raises important issues for societies as well as for those tasked with maintaining order in those societies.

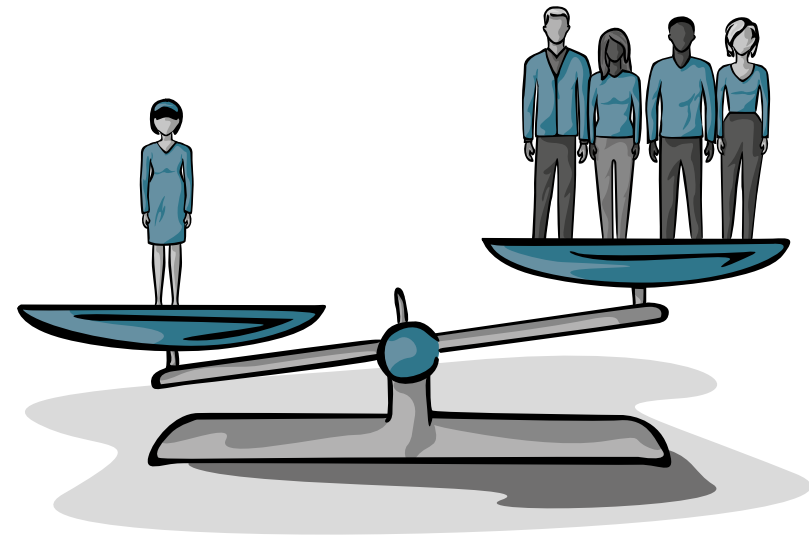
Over the last decade, disinformation has emerged as a favoured technique of nation states intent on influencing public opinion during elections, security crises and other political events. While such events will remain an important target for disinformation out to 2040, the manipulation of mainstream information environments will extend beyond the coordinated efforts of militaries, intelligence agencies and political campaigns. As technology advances and barriers-to-entry fall, disinformation techniques such as ‘spoofing’, ‘fake news’ and ‘astro-turfing’ are likely to become more widely available and easier to use. For example, as ‘deep fake’ technologies become more attainable (i.e. as they move from software requiring technical ‘know how’ to an easy-to-use mobile phone ‘app’), many offenders will gain a powerful weapon to commit online fraud, harassment, blackmail and domestic abuse. What was once a threat by a single person to divulge embarrassing information to a victim’s family, friends or colleagues could become a highly convincing campaign across multiple media to discredit someone in all aspects of their lives.

Challenge 2: Policing digital disinformation

“Policing’s remit has expanded significantly in recent years. A big example of that is the unresolved – and hardly addressed – question of how much policing should be involved in policing online environments”

Professor

As the financial, psychological and societal harms associated with disinformation become more visible and widespread, calls for policing to play a more active role in its mitigation are likely to grow. Two issues here stand out. The first issue concerns the still unresolved question of what role the police should play in the regulation of online spaces. On the one hand, countering digital disinformation may ultimately require government to convince, cajole or legally compel technology platforms to monitor and remove disinformation that meets certain criteria. On the other hand, responsibility for dealing with criminal or dangerous online harms, a growing number of which will have a disinformation component, cannot be completely delegated to profit-driven private interests. Security remains a primary task of the state – one of whose legitimating claims is to deliver equal protection to all citizens. If as expected, tackling disinformation is going to involve a mix of public education, police action and private sector expertise, the question of how this can be organised and regulated with public interest considerations in mind is a pressing one.



“The amount of disinformation that’s out there could really impact our ability to build public trust”

Assistant Chief Constable

Second, while any incident which rises to the level of criminal activity will be investigated and likely prosecuted, there remains an important question about the police response to disinformation which is being used in ‘real time’ to provoke panic, disorder or civil unrest. A growing body of research shows that major crises (eg, after a terrorist-attack or during a pandemic) are conducive settings for the communication of false or misleading information, including the creation and spread of rumours, conspiracy theories, fake news and propaganda.⁸⁷ Looking to the future, policing may need to attend far more

⁸⁷ Innes, M., Innes, H., Dobрева, D., Chermak, S., Huey, L. and McGovern, A. (2018) ‘From Minutes to Months: A rapid evidence assessment of the impact of media and social media during and after terror events’. Report to the five country ministerial countering violent extremism working group.

Challenge 2: Policing digital disinformation

to the ways in which these types of disinformation, especially those delivered during the midst or aftermath of a crisis, are used to influence people's emotions and behaviours in an attempt to elicit fear, spread confusion or exacerbate social tensions. Designing and delivering interventions that not only diminish such processes but also enable positive counter-influences will be an important component of responding to future crises.⁸⁸

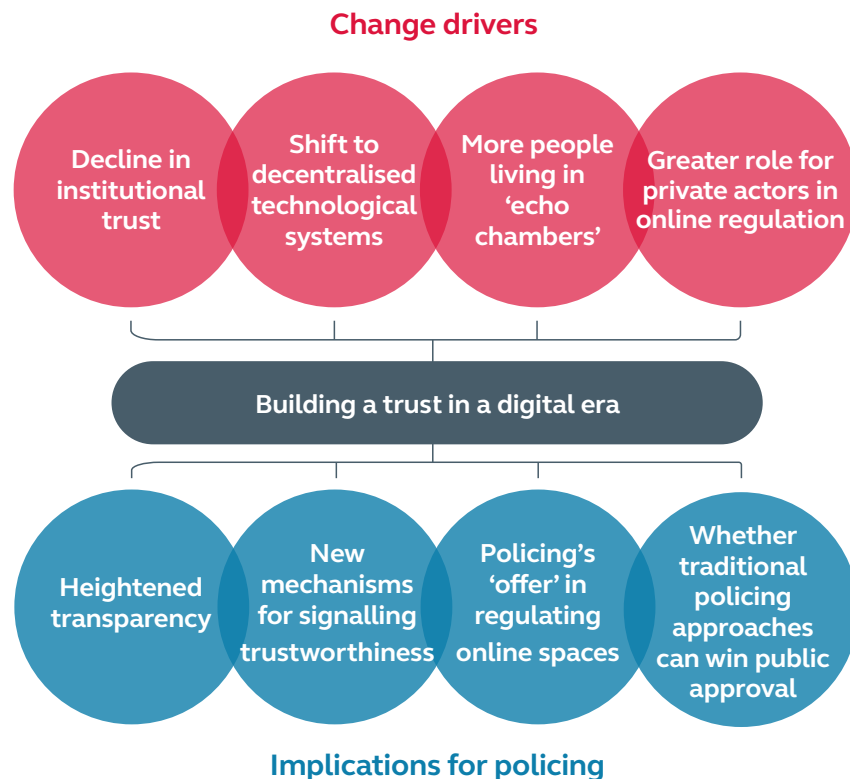
Regardless of the precise role policing plays in countering digital disinformation, an increase in the volume and sophistication of false, misleading or abusive information will have a number of practical implications. First, the investigation of offences involving the manipulation of video and audio will require new technical skills, forensic expertise and associated credentialing standards. Determining whether manipulation has taken place will require advanced digital forensics and image analysis. Second, countering disinformation will become increasingly important for public reassurance, protecting operational integrity and building the trust of diverse communities. Greater attention will need to be paid to how police media teams can use strategic communications interventions (eg, fact-checking, debunking and discrediting) to counteract the damaging effects of disinformation. Last, responding to disinformation will require policing to balance its core mission of protecting the public with the need to remain politically neutral, that is, to police online spaces in ways which do not expose it to claims that it is limiting freedom of speech or expression. Some rights groups have claimed that the fight against disinformation is being used to make unjustified arrests and pass repressive laws.

Key questions for policing:

- If, as expected, tackling disinformation is going to require a mix of public education, police action and private sector expertise, how can this be organised and regulated with public interest considerations in mind?
- What role might police communications play in countering the effects of disinformation on social cohesion, police legitimacy and operational integrity?

⁸⁸ Innes, M., Dobрева, D. and Innes, H. (2019) 'Disinformation and digital influencing after terrorism: spoofing, truthing and social proofing', *Journal of the Academy of Social Sciences*. Available at: <https://doi.org/10.1080/21582041.2019.1569714>

Challenge 3: Building trust in a digital era



“If we aren’t able to give people the outcomes they want, if we aren’t able to keep up with new crime trends, if we aren’t able to make ourselves relevant in the digital space, we’ll lose public trust. And that’s the one that worries me at the moment, to be honest, because we’ll become less relevant if people don’t feel that what we’re providing is of use to them”

Senior representative of national policing body

Many Western nations are experiencing chronically low levels of citizen trust in institutions. In 2019, just 42% of UK citizens trusted government, business and media to ‘do what is right’, with wrongdoing, widening inequalities and populist attacks on the leadership and accountability of prominent institutions all contributory factors.⁸⁹

At the same time, many institutions have struggled to adapt to a digital world characterised by heightened transparency, the near-ubiquity of social media and the rapid rise of online platforms and marketplaces. While industrialisation required people to place their trust in central authorities such as banks, universities and government agencies, the digital era has ushered in an array of new technologies which both undermine and allow people to sidestep those authorities.⁹⁰ The result has been a shift in trust from centralised institutions to distributed technological systems.⁹¹ Moreover, this shift is likely to accelerate and deepen over the next 20 years, as emerging technologies such as blockchain mature and enable greater decentralisation of the internet.⁹²

Even though trust in policing remains relatively high, this changing trust landscape, its consequences still unfolding, is far from an irrelevant backdrop: it brings with it new characteristics and mechanisms that policing will need to better understand if it is to sustain public trust in the digital era. Two issues stand out. First, as more people consume information about policing via digital media, with its algorithmically determined and easily manipulated news and information feeds, citizens across all social and political spectrums

⁸⁹ See <https://www.edelman.co.uk/research/2020-trust-barometer-uk-results>

⁹⁰ Examples include social media platforms, online marketplaces and crowdfunding sites, many of which are supported by review and rating systems.

⁹¹ Botsman, R. (2017) Who can you trust? How technology brought us together and how it might drive us apart.

⁹² Decentralisation is the process of distributing and dispersing power away from a central authority. Its underlying technology, blockchain, is what allows for this decentralisation, as it offers every single user an opportunity to become one of the network’s many processors.

Challenge 3: Building trust in a digital era

will see ‘realities’ that reinforce their existing belief systems and worldviews. To the extent that these realities are based on emotion, untethered from objective facts and frequently in conflict with each other, building public trust and policing by consent could become increasingly difficult.

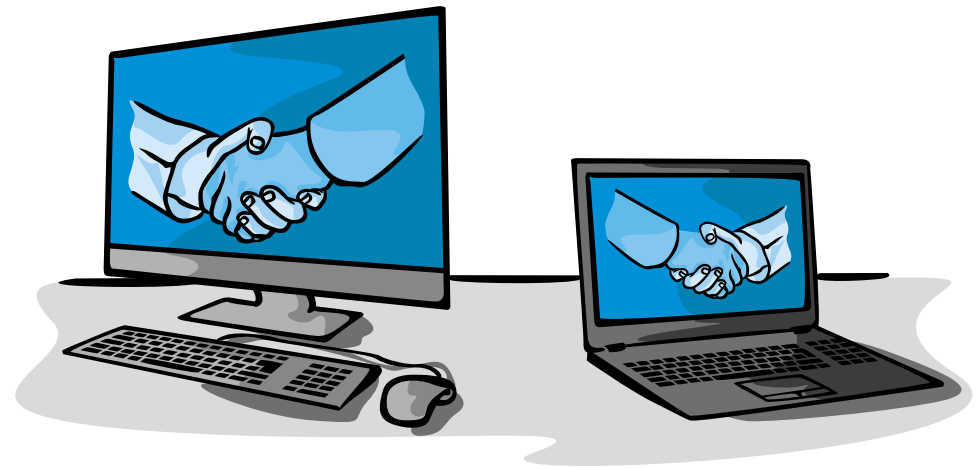
A second issue concerns the way in which greater decentralisation of the internet may give rise to new forms of regulation which minimise police involvement in dealing with online harm. Most online fraud, for example, is already managed through a prevention-compensation paradigm operated by financial institutions; it seems likely that information security more generally will also be governed in the future by the private sector.⁹³ As technologies such as AI, blockchain and quantum computing mature, technically proficient private actors are likely to play a more overt and significant role in the regulation of online spaces.⁹⁴ As a result, decisions about what online harms to govern, how to govern them and who ultimately benefits will fall to profit-driven companies rather than the state. Ceding sovereignty in this way could challenge police legitimacy by undermining the claim that security is a primary responsibility of the state.

“I don’t think the police are connecting the online stuff with their legitimacy. If it gets to the point where people just don’t rely on the police for this kind of stuff, where prevention and investigation is done by someone else, that will challenge their authority and legitimacy”

Professor

⁹³ See Carrapico, H and Farrand, B. (2017) ‘Dialogue, Partnership and Empowerment for Network and Information Security: The Changing Role of the Private Sector from Objects of Regulation to Regulation Shapers’, *Crime, Law and Social Change*, 67(3) pp. 245-263.

⁹⁴ Ibid.

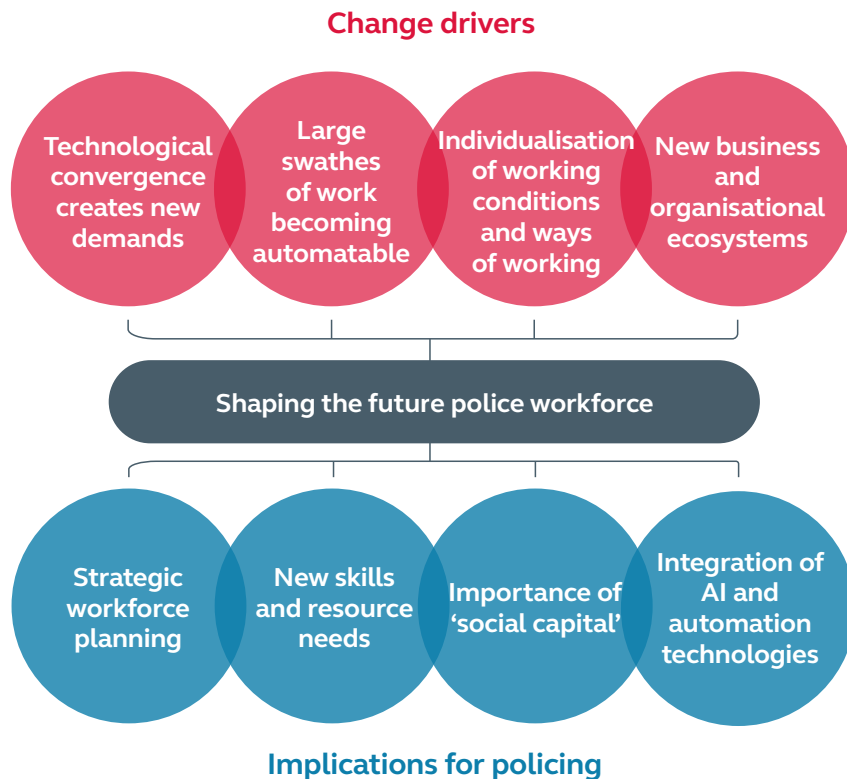


The police role must remain to prevent crime and disorder by winning the approval and trust of the public. The challenge for policing is to navigate the ‘digital revolution’ without losing its intimate connection with the public, to find new ways of building and sustaining trust in a digital environment which is becoming increasingly complex, chaotic and confusing. This is no minor challenge: as well as addressing questions about its approach to digital engagement and its role in preventing and investigating online harm, policing will also need to convince the public, especially those individuals and groups whose relationship with the police is already strained, that its own use of technology can be trusted.

Key questions for policing:

- Is policing’s current approach to digital engagement capable of building public trust in the digital era?
- What is the future role of policing in regulating online spaces – both in terms of enforcing regulation and investigating breaches?

Challenge 4: Shaping the future police workforce



“What are the skill types that we need going forward? The skills that may require more investment but will enable us to get upstream of things? Because we’re never going to get upstream the way we’re going at the moment. I think we have to think differently about our workforce and we’ve got to be more agile in how we allow them to work”

Superintendent

Over the next 20 years, advances in technologies such as AI, robotics and biotechnology will transform – and disrupt – not only jobs and skills but also deeply held assumptions about what it means to ‘do work’ and create value. Partly this is because of the potential for these technologies to connect and empower workers like never before, boosting productivity, facilitating quicker access to knowledge and enhancing a range of human physical and cognitive abilities.

With these advances on the horizon, a more strategic approach to police workforce planning is required, one which constantly pre-empts demand, identifies skills and resource needs and maintains an open mind about what can be done more effectively by or in collaboration with other sectors. While analytical tools can help anticipate demand and skills needs, there is also a pressing need for a more agile workforce that can work flexibly across organisational, jurisdictional and disciplinary boundaries. This may require more short-term, project-based working practices, where multidisciplinary teams are quickly assembled to meet a specific objective before moving on to the next piece of work.⁹⁵

At the same time, the skills, knowledge and life experiences needed to succeed in policing will evolve over the next 20 years as officers and staff face more novel and complex demands. Alongside traditional law enforcement skills, police work increasingly requires a portfolio of technical skills such as advanced digital forensics alongside interpersonal skills such as empathy, creativity and collaboration. This blend of skill sets will become increasingly valuable as more of the demands and challenges facing policing stem from the convergence of emerging technologies.

⁹⁵ Accenture (2018) Reimagining the police workforce: A vision for the future.

Challenge 4: Shaping the future police workforce

“I think we’re heading to a place where we have a much more mixed workforce. Policing today requires different and more extensive skillsets. In terms of preventive work, it requires, I think, a much different relationship between the public, the police and all those other groups and organisations that can assist us with keeping people safe”

Senior representative of national policing body

As well as developing the skills, expertise and resources that it ‘owns’, policing will also need to find ways of connecting to the skills, expertise and resources that are available within a broader ‘ecosystem’ of partners, including volunteers, public services and the private sector. It is widely acknowledged that many of the challenges policing faces cannot be solved by the police alone – this will continue to be the case out to 2040. As a result, policing’s effectiveness will increasingly depend on its ‘social capital’; that is, on the value of its relationships with partners as well as its ability to ‘orchestrate’ these through effective leadership, communication and consensus building.⁹⁶ However, previous attempts at police-partnership working have often suffered from a lack of focus, coordination and governance, with the police often at the margins or at best sharing a coordinating role with others.⁹⁷

⁹⁶ This suggests that skills and roles (eg, communication management and multi-agency ‘knowledge brokers’) which enable multi-actor cooperation will be increasingly valuable in the future.

⁹⁷ Ransley, J. and Mazzerolle, L. (2009) ‘Policing in an Era of Uncertainty’, *Police Practice and Research*, 10(4), pp. 365-381.



“The question for policing is how is it going to use artificial intelligence and automation to free up officers and staff to be more proactive and productive?”

Private sector technologist



Challenge 4: Shaping the future police workforce

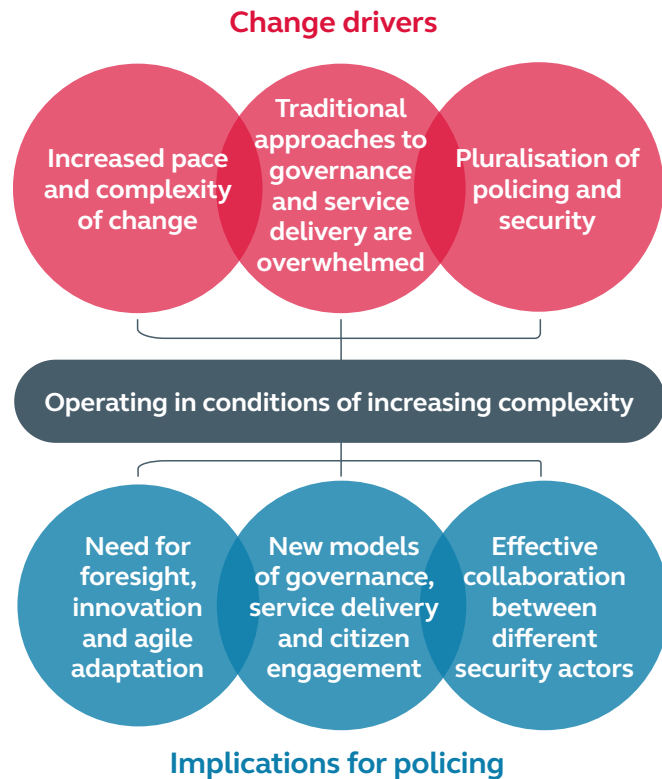
Shaping the future police workforce will also require higher-purpose – and potentially uncomfortable – conversations about what policing will look like in the context of increasing automation. The use of AI across a range of policing activities increases the likelihood that some police tasks will in the future become automated: wherever a task is deemed too complex, too time-consuming or too dangerous for a human being, AI/robotics could provide a solution. But while it is true that AI and other emerging technologies will play a more central role in policing in the future, their introduction risks damaging the morale, motivation and wellbeing of officers and staff unless their integration into the workplace is managed carefully. Building a workforce with the intellectual and psychological aptitude necessary to work in an increasingly automated environment will be an important part of preparing policing for the future.

Key questions for policing:

- How can policing build an agile and adaptive workforce capable of working flexibly across bureaucratic, jurisdictional and disciplinary boundaries?
- How can policing best harness the skills, expertise and resources that exist within its broader 'ecosystem' of partners?



Challenge 5: Operating in conditions of increasing complexity



“There’s a real tension between what we might think of as 20th century policing and 21st century policing, between policing’s traditional aims, values and ways of working and some of the contemporary threats and issues that we’re now being confronted with”

Head of think tank

Over the past several decades change has become increasingly complex: in speed, interconnectedness and uncertainty of outcome. This complexity brings with it new strategic risks and systemic challenges – challenges that are ‘knotty’ and difficult to address, such as migration, climate change, emerging diseases and transnational organised crime. While governments have traditionally been good at dealing with problems which are static and can be addressed in silos, the type of change we see today is overwhelming traditional approaches to planning, governance, service delivery and citizen engagement.

We also see this pattern in policing.⁹⁸ Many of the problems policing must now contend with are complex rather than merely complicated, which is to say they are fast-moving, cannot be broken apart and solved piece by piece, have little regard for established jurisdictional, bureaucratic or disciplinary boundaries and morph into new problems as a result of interventions to deal with them.⁹⁹ Issues such as cybercrime, terrorism and organised crime transcend national borders and require cooperation both inside and outside government to solve. At the same time, many volume crimes are rooted in deeply entrenched social, economic and cultural problems, with policing just one of many actors responsible for their resolution. Few, if any, of these problems can be resolved by traditional, reactive policing approaches. Instead they require new approaches blending intelligence collection, data analysis, new technologies, specialist skills and problem-solving.

⁹⁸ Ransley, J. and Mazzerolle, L. (2009) ‘Policing in an Era of Uncertainty’, *Police Practice and Research*, 10(4), pp. 365-381.

⁹⁹ See Fuerth, L.S. and Faber, E.M.H. (2012) *Anticipatory Governance: Practical Upgrades*.

“The service feels very uncertain about how best to organise itself to respond to the challenges that are coming its way... The current model is defensive, reactive and brittle”

Former chief constable

This complexity poses a profound challenge to the adaptive capacity of many of policing's current processes, structures and systems, which are essentially modelled on the early industrial period: vertical; hierarchical; fragmented; and bureaucratic. As one interviewee put it: “What we're effectively doing is trying to retrofit a 19th century organisation to the problems of the 21st century.” As well as hindering policing's ability to deal with current challenges, this was said to also be impeding policing's ability to anticipate emerging threats (through foresight), to spur new thinking about how best to address them (through innovation) and to mobilise responses quickly to maximise chances of success (through agile adaptation).

Several interviewees said that policing faces difficult choices about how to upgrade its processes, capabilities and governance structures to meet the challenges and opportunities of the 21st century – simply patching up or tinkering with existing processes or structures may not suffice. If policing is to meet the increasingly complex demands of the next 20 years (and beyond), it may need to explore radically different models of governance, citizen engagement, policy development and service delivery. For example, policing may need to cede sovereignty to communities or private actors to create more effective hierarchical governance, or create new, non-hierarchical, networked structures which put resources and services in the right place at the right time. Many of the threats that have emerged in recent years have resulted in policing powers and responsibilities being extended to a broad range of police, security, regulatory, administrative and private actors who form loose networks with overlapping functions.



Challenge 5: Operating in conditions of increasing complexity

Developing the capacity to ‘orchestrate’ and lead these networks will become increasingly important over the next 20 years.

“My hope is that by 2040 British policing is known as much for its innovation as it is for its tradition... And that’s the reason why it’s seen as the best in the world”

Private sector management consultant

Increasing complexity also poses a challenge to police leadership. To meet future challenges, police leaders will need a more diverse toolkit of skills, experiences and resources, including the ability to anticipate and prepare for emerging challenges and opportunities. In a rapidly changing, complex world, thinking creatively and systematically about the future is a critical leadership role and responsibility. Expanding the police leadership toolkit to include ‘futures literacy’¹⁰⁰ – the ability to better understand the role the future plays in what people see and do in the present – could help police leaders of the future better manage complexity and uncertainty. Not only would this help leaders anticipate future challenges so that they can be avoided or mitigated; it would also help them identify future opportunities so that they can be realised and maximised.

Key questions for policing:

- How can policing develop the incentives and governance arrangements that sustain a culture of regular, useful, impactful foresight and its subsequent use in decision-making?
- How can policing improve inter-organisational cooperation so that the whole system can be mobilised quickly to address complex problems?
- How can policing expand the leadership toolkit to include ‘futures literacy’?

¹⁰⁰ United Nations Educational, Scientific and Cultural Organisation (UNESCO) Futures Literacy: A skill for the 21st century. Available at <https://en.unesco.org/themes/futures-literacy>.

About the College

We're the professional body for the police service in England and Wales.

Working together with everyone in policing, we share the skills and knowledge officers and staff need to prevent crime and keep people safe.

We set the standards in policing to build and preserve public trust and we help those in policing develop the expertise needed to meet the demands of today and prepare for the challenges of the future.

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