



House of Commons
Science, Innovation and
Technology Committee

**Governance of artificial
intelligence (AI)**

Third Report of Session 2023–24

*Report, together with formal minutes relating
to the report*

*Ordered by the House of Commons
to be printed 23 May 2024*

Science, Innovation and Technology Committee

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Summary

Since the publication of our interim Report examining the governance of artificial intelligence (AI) in August 2023, debates over how to regulate the development and deployment of AI have continued. These debates have often centred around the Twelve Challenges of AI Governance we identified in our interim Report.

This Report examines domestic and international developments in the governance and regulation of AI since the publication of our interim Report. It also revisits the Twelve Challenges of AI Governance we identified in our interim Report and suggests how they might be addressed by policymakers. Our conclusions and recommendations apply to whoever is in Government after the General Election.

We have sought to reflect the uncertainty that exists over many questions that are critical to the future shape of the UK's AI governance framework: how the technology will develop, what the consequences will be of its increased deployment, whether as-yet hypothetical risks will be realised, and how policy can best keep pace with the rate of development in these and other areas.

These questions need to be answered over the longer-term.

Perhaps the most far-reaching of the challenges that AI poses is how to deal with a technology which—in at least some of its variants—operates as a 'black box'. That is to say, the basis of and reasoning for its recommendations may be strictly unknowable. Most of public policy—and the scientific method—is based on being able to observe and validate the reasons why a particular decision is made and to test transparently the soundness (or the ethics) of the connections that lead to a conclusion. In neural networks-based AI that may not be possible, but the predictive power of models may nevertheless be very strong. A so-called 'human in the loop' may be unequal to the power and complexity of the AI model. In our recommendations we emphasise a greater role for testing of outputs of such models as a means to assess their power and acuity.

In the short term, it is important that the UK Government works to increase the level of public trust in AI—a technology that has already become a ubiquitous part of our everyday lives. If this public trust can be secured, we believe that AI can deliver on its significant promise, to complement and augment human activity.

The Government has articulated the case for AI: better public services, high quality jobs and a new era of economic growth driven by advances in AI capabilities. It has confirmed its intention to pursue the principles-based approach proposed in its March 2023 AI White Paper and examined in our interim Report. Five high-level principles—safety, security and robustness; appropriate transparency and explainability; fairness; accountability and governance; and contestability and redress—underpin the Government's approach and have begun to be translated into sector-specific action by regulators.

A key theme of our Inquiry has been whether the Government should bring forward AI-specific legislation. Resolving this should be a priority for the next administration. We believe that the next Government should be ready to introduce new AI-specific

legislation, should the current approach based on regulators' existing powers and voluntary commitments by leading developers prove insufficient to address current and potential future harms associated with the technology.

The success of the UK's approach to AI governance will be determined to a significant extent by the ability of our sectoral regulators to put the Government's high-level principles into practice as AI continues to develop at pace. We have identified three factors that will influence their ability to deliver: powers, coordination and resourcing.

On powers, we welcome confirmation that the Government will undertake a regulatory gap analysis to determine whether regulators require new powers to respond properly to the growing use of AI, as recommended in our interim Report. Concluding this analysis and implementing its findings must be a priority for the next Government.

On coordination, the general-purpose nature of AI will, in some instances, involve overlapping regulatory remits, and a possible lack of clarity of the responsibility of different regulators. This could create confusion on the part of consumers, developers and deployers of the technology, as well as regulators themselves. The central steering committee that the Government has said it will establish should be empowered to provide guidance and, where necessary, direction to help regulators navigate any overlapping remits, whilst respecting their independence. The regulatory gap analysis should also put forward suggestions for delivering this coordination, including joint investigations, a streamlined process for regulatory referrals, and enhanced levels of information sharing.

On resourcing, the capacity of regulators is a concern. Ofcom, for example, is combining implementing a broad new suite of powers conferred on it by the Online Safety Act 2023, with formulating a comprehensive response to the deployment of AI across its regulatory ambit. Others will be required to undertake resource-intensive investigations and it is vital that they have both the powers and resources to do so. We believe that the announced £10 million to support regulators in responding to the growing prevalence of AI is clearly insufficient to meet the challenge, particularly when compared to even the UK-only revenues of leading AI developers.

The AI Safety Institute, established in its current form following the AI Safety Summit at Bletchley Park in November 2023, is another key element of the UK's AI governance framework. The Institute's leadership has assembled an impressive and growing team of researchers and technical experts recruited from leading developers and academic institutions, helped shape a global dialogue on AI safety, and—whilst not a regulator—has played a decisive role in shaping the UK's regulatory approach to AI. However, the reported challenges the Institute has experienced with securing access to leading developers' future models to undertake pre-deployment safety testing is, if accurate, a major concern. Whilst testing on already-available models is clearly a worthwhile undertaking, the release of future models without the promised independent assessment would undermine the achievement of the Institute's mission and its ability to secure public trust in the technology.

While international conversations about AI safety have generated a degree of consensus—and provided a notable point of engagement with China—there is not an emerging international standard on regulation. The UK has pursued a principles-based approach

that works through existing sector regulators. The Biden-Harris administration in the United States has through its Executive Order issued greater direction to federal bodies and Government departments. The European Union, meanwhile, has agreed its AI Act, which takes a ‘horizontal’, risk-based approach, with AI uses categorised into four levels of risk, and specific requirements for general-purpose AI models. The AI Act will enter into force in phases between now and mid-2026.

Both the US and EU approaches to AI governance have their downsides. The scope of the former imposes requirements only on federal bodies and relies on voluntary commitments from developers. The latter has been criticised for a top-down, prescriptive approach and the potential for uneven implementation across different member states. The UK is entitled to pursue its own, distinct approach that draws on our track record of regulatory innovation and the biggest cluster of AI developers outside the US and China.

Among the areas where learnings from elsewhere could be applied are in formulating responses to the Twelve Challenges of AI Governance proposed in our interim Report. We believe that all of these governance challenges still apply. We have proposed solutions to each of them in this Report to demonstrate what policy makers in Government should be doing.

These should not be viewed as definitive solutions to the challenges, but as provisional illustrations of what policy might be in a complex, rapidly developing area. They are summarised below.

1. The Bias Challenge. Developers and deployers of AI models and tools must not merely acknowledge the presence of inherent bias in datasets, they must take steps to mitigate its effects.

2. The Privacy Challenge. Privacy and data protection frameworks must account for the increasing capability and prevalence of AI models and tools, and ensure the right balance is struck.

3. The Misrepresentation Challenge. Those who use AI to misrepresent others, or allow such misrepresentation to take place unchallenged, must be held accountable.

4. The Access to Data Challenge. Access to data, and the responsible management of it, are prerequisites for a healthy, competitive and innovative AI industry and research ecosystem.

5. The Access to Compute Challenge. Democratising and widening access to compute is a prerequisite for a healthy, competitive and innovative AI industry and research ecosystem.

6. The Black Box Challenge. We should accept that the workings of some AI models are and will remain unexplainable and focus instead on interrogating and verifying their outputs.

7. The Open-Source Challenge. The question should not be ‘open’ or ‘closed’, but rather whether there is a sufficiently diverse and competitive market to support the growing demand for AI models and tools.

8. The Intellectual Property and Copyright Challenge. The Government should broker a fair, sustainable solution based around a licensing framework governing the use of copyrighted material to train AI models.

9. The Liability Challenge. Determining liability for AI-related harms is not just a matter for the courts—Government and regulators can play a role too.

10. The Employment Challenge. Education is the primary tool for policymakers to respond to the growing prevalence of AI, and to ensure workers can ask the right questions of the technology.

11. The International Coordination Challenge. A global governance regime for AI may not be realistic nor desirable, even if there are economic and security benefits to be won from international co-operation.

12. The Existential Challenge. Existential AI risk may not be an immediate concern but it should not be ignored, even if policy and regulatory activity should primarily focus on the here and now.

1 Introduction

1. Since the publication of our interim Report examining the governance of artificial intelligence (AI) in August 2023, debates over how to regulate the development and deployment of AI have continued. These debates have often centred around the twelve challenges of AI governance we identified in our interim Report.¹
2. Jurisdictions including the UK,² European Union³ and United States⁴ have begun to establish regulatory regimes to govern—to varying degrees and using different approaches—the development and deployment of AI, ahead of the anticipated launch of new, more advanced models during the months ahead.⁵
3. Whilst an international consensus around AI governance has not yet been reached, the topic has risen up the agenda of various international fora, including the G7,⁶ United Nations⁷ and at the AI Safety Summit organised by the UK Government at Bletchley Park in November 2023.⁸
4. With AI’s growing ubiquity, the capability of existing models, and the ongoing conversation about how best to regulate the development and deployment of the technology, there is much to reflect on in our second Report.

Our Inquiry

5. We launched our Inquiry on 20 October 2022, to examine the impact of AI on different areas of society and the economy; whether and how AI and its different uses should be regulated; and the Government’s AI governance proposals.⁹ We have received and published over 100 written submissions and taken oral evidence from 33 witnesses, including Government Ministers and officials, AI researchers, businesses, civil society, and professionals affected by the technology.
6. In August 2023 we published an interim Report,¹⁰ to which the Government responded in November of that year.¹¹ We have also visited the United States, where we met with representatives from public bodies, private companies and research institutions in Boston and Washington, D. C.; and the European Union institutions in Brussels. We are grateful to everyone who has contributed to our Inquiry.

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- 1 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, summary
 - 2 [A pro-innovation approach to AI regulation](#), CP 815, Department for Science, Innovation and Technology, 29 March 2023
 - 3 [Artificial intelligence act: Council and Parliament strike a deal on the first rules for AI in the world](#), Council of the European Union, 9 December 2023
 - 4 [Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence](#), The White House, 30 October 2023
 - 5 [Frontier AI Taskforce: second progress report](#), GOV.UK, 30 October 2023
 - 6 [G7 nations to harness AI and innovation to drive growth and productivity](#), GOV.UK, 15 March 2024
 - 7 [Interim Report: Governing AI for Humanity](#), United Nations AI Advisory Body, 22 December 2023
 - 8 [Countries agree to safe and responsible development of frontier AI in landmark Bletchley Declaration](#), GOV.UK, 1 November 2023
 - 9 [MPs to examine regulating AI in new inquiry](#), UK Parliament, 20 October 2022
 - 10 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769
 - 11 Science, Innovation and Technology Committee, [First Special Report of Session 2023–24, The governance of artificial intelligence: interim report: Government response to the Committee’s Ninth report](#), HC 248

Aims of this Report

7. This Report examines domestic and international developments in the governance and regulation of AI since the publication of our interim Report. It also revisits the Twelve Challenges of AI Governance we identified in our interim Report and suggests how they might be addressed by policymakers.

- In Chapter 2, we consider the case for AI.
- In Chapter 3, we examine the likelihood of AI-specific regulation in the UK.
- In Chapter 4, we assess the role of regulators in the UK's AI governance framework.
- In Chapter 5, we examine the deployment of AI in the public and private sectors.
- In Chapter 6, we consider the role of the UK AI Safety Institute.
- In Chapter 7, we assess the regulatory approaches to AI taken by the European Union and the United States.
- Finally, in Chapter 8, we revisit our Twelve Challenges of AI Governance and offer some potential solutions for policymakers.

8. **With a General Election approaching we have sought to make this Report futureproof and believe that our conclusions and recommendations will remain applicable to future Administrations. *It is important that the timing of the General Election does not stall necessary efforts by the Government, developers and deployers of AI to increase the level of public trust in a technology that has become a central part of our everyday lives.***

2 The case for AI

9. As AI has become an increasingly ubiquitous, general-purpose technology, debates over the societal and economic implications have continued. In this Chapter, we will examine the increasingly widespread deployment of AI, the positive and negative consequences, and the ‘case in favour’ of the technology.

The deployment phase

10. In our interim Report, published in August 2023, we examined the potential benefits of the deployment of AI models and tools in healthcare provision, medical research and education.¹² Since then, we have seen AI used across a growing number of societal and economic activities—as one analysis has observed, 2024 has been the deployment phase for AI.¹³

11. The UK Government has consistently emphasised the benefits associated with the deployment of AI in the public and private sectors, a topic we will return to in Chapter 5. The Secretary of State for Science, Innovation and Technology, Rt. Hon. Michelle Donelan MP, described AI to us as “... a foundational technology that interlinks with all the other technologies”.¹⁴

Pros and cons

12. The Secretary of State’s depiction of AI as a foundational technology has been borne out in the expanding range of sectors where it has improved existing processes and either offered or already delivered tangible productivity gains, by augmenting and assisting skilled workers.¹⁵

13. One sector highlighted to us as well-placed to capitalise on the benefits associated with the deployment of AI is financial services, a key driver of growth for the UK economy.¹⁶ Nikhil Rathi, Chief Executive of the Financial Conduct Authority (FCA), has said that whilst not new, “AI in markets today brings models incorporating deep learning and neural networks capable of analysing large datasets and highlighting intricate patterns”, which facilitate “... synchronised, automated order placements”.¹⁷

14. Cyber security is another sector where the analytical capabilities of the technology have been deployed. NCC Group, a cyber security firm, told us that AI was “... used by cyber defenders to analyse large data sets at scale, support threat intelligence and mimic

12 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, Chapter 3

13 [AI poised to begin shifting from ‘excitement’ to ‘deployment’ in 2024](#), Goldman Sachs, 17 November 2023

14 [Q771](#)

15 [State of AI Report](#), Air Street Capital, 12 October 2023

16 [State of the sector: annual review of UK financial services 2023](#), City of London Corporation and HM Treasury, 4 July 2023

17 [Collaborate to compete: why we must all embrace a growth mindset](#), Financial Conduct Authority, 18 October 2023

the behaviours of cyber attackers, so that organisations can understand and prepare for potential attacks”.¹⁸ Leading AI developers have built generative AI models that can assist and augment the work undertaken by human cyber security analysts.¹⁹

15. However, these benefits cannot be realised without incurring risks. The FCA told us that “AI’s potential for autonomous decision-making brings with it potentially serious challenges to governance processes, because it puts in to question the ownership and responsibility for decision making”.²⁰ It also said that the increasing complexity of AI models “... will require a greater focus on testing, validation and explainability... built on strong accountability principles”.²¹

16. In the cyber security field, NCC Group told us that in addition to the benefits of AI, it was “... lowering the barrier of entry into cybercrime, making it easier for cyber attackers to successfully target victims and widening the availability of voice cloning, deep fakes and social engineering bots”.²² The National Cyber Security Centre, part of GCHQ, has said that “AI is already being used in malicious cyber activity and will almost certainly increase the volume and impact of cyber attacks—including ransomware—in the near term”.²³

Energy consumption

17. Since the publication of our interim Report, increased attention has been paid to the environmental impact of the development and use of AI models and tools, particularly their electricity and water consumption.²⁴ Researchers at the University of California, Riverside have estimated that running 10–50 ‘inferences’—or queries—using OpenAI’s GPT-3 model can equate to consuming “... 500 millilitres of water, depending on when and where the model is hosted. GPT-4, the model currently used by ChatGPT, reportedly has a much larger size and hence likely consumes more water than GPT-3”.²⁵

18. In its 2024 environmental sustainability report, Microsoft confirmed that its overall carbon emissions had risen by 29.1% since 2020. It attributed this to “... the construction of more datacenters and the associated embodied carbon in building materials, as well as hardware components such as semiconductors, servers, and racks”.²⁶ Whilst Microsoft and other leading developers such as Google have set targets to reduce their emissions and energy consumption by the end of the decade,²⁷ it is nevertheless notable that Sam Altman, CEO of OpenAI, said in January 2024 that “we still don’t appreciate the energy needs of this technology”.²⁸

18 NCC Group (CYB0008)

19 [Is artificial intelligence the solution to cyber security threats?](#), Financial Times, 16 January 2024

20 Financial Conduct Authority (GAI0125)

21 Financial Conduct Authority (GAI0125)

22 NCC Group (CYB0008)

23 [The near-term impact of AI on the cyber threat](#), National Cyber Security Centre, 24 January 2024

24 [How much electricity does AI consume?](#) The Verge, 16 February 2024;

25 [How much water does AI consume? The public deserves to know](#), OECD.AI, 30 November 2023

26 [Microsoft 2024 Environmental Sustainability Report](#), Microsoft, 15 May 2024, p. 5

27 [Microsoft’s emissions jump almost 30% as it races to meet AI demand](#), Financial Times, 15 May 2024; [Net-zero carbon](#), Google, accessed 23 May 2024

28 [Sam Altman says the future of AI depends on breakthroughs in clean energy](#), The Verge, 19 January 2024

Making the case?

19. Government communications have referred to both the positive and negative consequences associated with the increasing deployment of AI. The Prime Minister, Rt. Hon. Rishi Sunak MP, has said that “... the more we learn about frontier technologies like AI, the more they widen our horizons... the possibilities are extraordinary”.²⁹ The Secretary of State for Science, Innovation and Technology similarly described improved AI capabilities as a “... once-in-a-generation opportunity for the British people to revolutionise our public services for the better and to deliver real, tangible, long-term results for our country”.³⁰

20. At the same time, the Government response to its AI White Paper consultation detailed three categories of AI-related risk—societal harms, misuse risk, and autonomy risk³¹—and an AI Safety Institute has been established in order to “... minimise surprise to the UK and humanity from rapid and unexpected advances... by developing the sociotechnical infrastructure needed to understand the risks of advanced AI and support its governance”.³² We will examine the Government’s approach to AI governance, the deployment of AI in the public and private sectors and the role of the AI Safety Institute in Chapters 3, 4, 5 and 6 of this Report.

21. Our interim Report identified Twelve Challenges of AI governance that we said could potentially complicate the process of ensuring that policy could deliver the beneficial consequences of AI whilst also safeguarding the public interest and preventing known potential harms, both societal and individual.³³ We will offer some potential solutions to these Challenges in Chapter 8 of this Report.

22. If governed appropriately, we believe that AI can deliver on its significant promise, to complement and augment human activity. The Government has articulated the case for AI: better public services, high quality jobs and a new era of economic growth driven by advances in AI capabilities.

23. The Government is right to emphasise the potential societal and economic benefits to be won from the strategic deployment of AI. However, as our interim Report highlighted, the challenges are as clear as the potential benefits, and these benefits cannot be realised without public trust in the technology.

24. The Government should certainly make the case for AI but should equally ensure that its regulatory framework addresses the Twelve Challenges of AI Governance that we have identified in our interim Report; and offer potential solutions to in this Report.

29 [PM speech at London Tech Week](#), GOV.UK, 12 June 2023

30 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 3

31 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 17

32 [Frontier AI Taskforce: second progress report](#), Department for Science, Innovation and Technology, 30 October 2023

33 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, summary

3 AI-specific legislation

25. In February 2024 the Government set out further details of its regulatory approach to AI in the form of its response to a consultation on its AI White Paper,³⁴ which was published in March 2023.³⁵ In this Chapter we will examine the consultation response and the likelihood of AI-specific legislation in the UK following the General Election.

A principles-based approach

26. The consultation response confirmed that the Government would pursue the principles-based approach it proposed in its March 2023 AI White Paper and examined in our interim Report.³⁶ Five high-level principles—“safety, security and robustness; appropriate transparency and explainability; fairness; accountability and governance; and contestability and redress”³⁷—underpinned the Government’s approach, which it has described as a combination of “... cross-sectoral principles and a context-specific framework, international leadership and collaboration, and voluntary measures on developers”.³⁸

27. The Government has said that its intended framework has been developed in order to avoid “... unnecessary blanket rules that apply to all AI technologies, regardless of how they are used. This is the best way to ensure an agile approach that stands the test of time”.³⁹ Existing regulators have been asked to implement the five high-level principles in their respective sectors.⁴⁰

AI-specific legislation

28. A key question for our Inquiry has been whether the Government should bring forward AI-specific legislation. Our interim Report pointed out that the period leading up to the General Election would be the final opportunity to enact legislation before “... late 2025—more than two years from now and nearly three years from the publication of the [AI] White Paper”.⁴¹

29. In the March 2023 AI White Paper the Government said that it anticipated legislating, at a minimum, to establish ‘due regard’ duties for existing regulators in relation to its five

34 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024

35 [A pro-innovation approach to AI regulation](#), CP 815, Department for Science, Innovation and Technology, 29 March 2023

36 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, Chapter 5

37 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 13

38 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 7

39 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 13

40 [A pro-innovation approach to AI regulation](#), CP 815, Department for Science, Innovation and Technology, 29 March 2023, p. 6

41 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 105

high-level principles.⁴² Our interim Report said that “... [this] commitment alone—in addition to any further requirements that may emerge—suggests that there should be a tightly-focussed AI Bill in the November 2023 King’s Speech”.⁴³

30. In its response to our interim Report, received in November 2023, the Government said that “... rather than rushing to legislate, we want to simultaneously learn about model capabilities and risks, while also carefully considering the frameworks for action”.⁴⁴ In December 2023 the Secretary of State for Science, Innovation and Technology told us that the Government would not bring forward an AI-specific Bill before the General Election, given the time that it would likely take to become law:

The key here is timing. We are not saying that we would never legislate in this space. Of course we would... every Government will have to legislate eventually. The point is that we do not want to rush to legislate and get this wrong. We do not want to stifle innovation.⁴⁵

31. The Government response to the AI White Paper consultation confirmed this and argued that the proposed “... non-statutory approach currently offers critical adaptability—especially while we are still establishing our approach”.⁴⁶ The Government has also emphasised the importance of the safety-related voluntary commitments secured from leading AI developers ahead of the AI Safety Summit at Bletchley Park,⁴⁷ and the ongoing safety testing work being undertaken by the AI Safety Institute.⁴⁸ We will return to the role of the AI Safety Institute in Chapter 6.

32. Despite the expressed preference for a principles-based approach, the AI White Paper consultation response confirmed that the Government would bring forward legislation targeted at the most capable, general-purpose AI models and tools if such legislation became necessary, specifically if:

... we determined that existing mitigations were no longer adequate and we had identified interventions that would mitigate risks in a targeted way... if we were not sufficiently confident that voluntary measures would be implemented effectively by all relevant parties and if we assessed that risks could not be effectively mitigated using existing legal powers.⁴⁹

42 A pro-innovation approach to AI regulation, CP 815, Department for Science, Innovation and Technology, 29 March 2023, p. 6

43 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 106

44 Science, Innovation and Technology Committee, [First Special Report of Session 2023–24, The governance of artificial intelligence: interim report: Government response to the Committee’s Ninth report](#), HC 248, p. 8

45 [Q757](#)

46 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 14

47 [Leading frontier AI companies publish safety policies](#), GOV.UK, 27 October 2023

48 [World leaders, top AI companies set out plan for safety testing of frontier as first global AI Safety Summit concludes](#), GOV.UK, 2 November 2023

49 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 33

In April 2024 it was reported by the Financial Times that Government officials were “... beginning to craft new legislation to regulate artificial intelligence”, and that “... such legislation would likely put limits on the production of large language models, the general-purpose technology that underlies AI products such as OpenAI’s ChatGPT”.⁵⁰

33. The next Government should stand ready to introduce new AI-specific legislation, should an approach based on regulatory activity, existing legislation and voluntary commitments by leading developers prove insufficient to address current and potential future harms associated with the technology.

34. The Government should in its response to this Report provide further consideration of the criteria on which a decision to legislate will be triggered, including which model performance indicators, training requirements such as compute power or other factors will be considered.

35. The next Government should commit to laying before Parliament quarterly reviews of the efficacy of its current approach to AI regulation, including a summary of technological developments related to its stated criteria for triggering a decision to legislate, and an assessment whether these criteria have been met.

50 [UK rethinks AI legislation as alarm grows over potential risks](#), Financial Times, 15 April 2024

4 The role of regulators

36. In addition to existing legislation and voluntary measures, the Government’s high-level principles have begun to be translated into sector-specific action by regulators.⁵¹ Our interim Report detailed different views about the capacity of individual regulators to respond to the growing use of AI,⁵² and the Government has also acknowledged that different regulators are at different stages of readiness.⁵³ In this Chapter we assess the role of regulators in the UK’s AI governance framework.

Powers

37. Since the publication of our interim Report we have examined the preparedness of regulators to respond to AI’s increasing prevalence, including the Competition and Markets Authority (CMA), Financial Conduct Authority (FCA), Information Commissioner’s Office (ICO) and Ofcom; as well as the Digital Regulation Cooperation Forum (DRCF), described as a co-ordination mechanism or “connective tissue” by its Chief Executive, Kate Jones.⁵⁴

38. Whilst all four regulators told us that they were well-placed to respond to the growing use of AI in their respective sectors,⁵⁵ Nikhil Rathi, Chief Executive of the FCA, has described the challenge of “... managing the balance between transparency, fairness to firms and competitiveness”, particularly in the announcement of investigations.⁵⁶ Dame Melanie Dawes, Chief Executive of Ofcom, the communications and online safety regulator, said that she was in favour of “... the Government having a policy function to scan where there may be gaps in the regulatory landscape”.⁵⁷

39. A regulatory gap analysis was recommended in our interim Report,⁵⁸ and in its response to the AI White Paper consultation the Government said that it recognised:

... the need to assess the existing powers and remits of the UK’s regulators to ensure they are equipped to address AI risks and opportunities in their domains and implement the principles in a consistent and comprehensive way. We will, therefore, work with government departments and regulators to analyse and review potential gaps in existing regulatory powers and remits.⁵⁹

51 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 13

52 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 97

53 [A pro-innovation approach to AI regulation](#), CP 815, Department for Science, Innovation and Technology, 29 March 2023, p. 15

54 [Q610](#)

55 Competition and Markets Authority ([GAI0124](#)), Financial Conduct Authority ([GAI0125](#)), Information Commissioner’s Office ([GAI0112](#)), Ofcom ([GAI0126](#))

56 [Navigating the UK’s Digital Regulation Landscape: Where are we headed?](#) Financial Conduct Authority, 22 April 2024

57 [Q547](#)

58 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 104

59 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 15

40. We welcome confirmation that the Government will undertake a regulatory gap analysis to determine whether regulators require new powers to respond properly to the growing use of AI, as recommended in our interim Report. However, as the end of this Parliament approaches, there is no longer time to bring forward any updates to current regulatory remits and powers, should they be discovered to be necessary. This could constrain the ability of regulators to properly implement the Government’s AI principles and undermine the UK’s overall approach.

41. *The next Government should conduct and publish the results its regulatory gap analysis as soon as is practicable. If the analysis identifies any legislation required to close regulatory gaps, this should be brought forward in time for it to be enacted as soon as possible after the General Election.*

Coordination

42. The Government has said that regulators will need to coordinate with each other when implementing its AI principles,⁶⁰ whilst our interim Report concluded that it would likely need to establish “a more well-developed central coordinating function” than that proposed in the AI White Paper.⁶¹

43. Will Hayter, Executive Director for Digital Markets at the CMA, told us that the four DRCF member regulators “... all understand throughout our digital regulation activities that we need to talk to one another, sharing expertise and attempting to be more than the sum of our parts”.⁶² Similarly, four national bodies in the field of health—the Care Quality Commission, Health Research Authority, Medicines and Healthcare Products Regulatory Agency and National Institute for Health and Care Excellence—have launched a joint Artificial Intelligence and Digital Regulations Service, which “... aims to clearly set out the information and guidance that developers and adopters need to follow to develop safe, innovative technologies in health and social care”.⁶³

44. In its response to the AI White Paper consultation, the Government confirmed that it would set up “a steering committee with government representatives and key regulators to support knowledge exchange and coordination on AI governance”.⁶⁴ A first iteration of guidance for regulators on how to implement the five principles has also been published.⁶⁵

45. **The general-purpose nature of AI will, in some instances, lead to regulatory overlap, and a potential blurring of responsibilities. This could create confusion on the part of consumers, developers and deployers of the technology, as well as regulators themselves. The steering committee that the Government has said it will establish should be empowered to provide guidance and, where necessary, direction to help regulators navigate any overlapping remits, whilst respecting the independence of the UK’s regulators.**

60 [A pro-innovation approach to AI regulation](#), CP 815, Department for Science, Innovation and Technology, 29 March 2023, p. 42

61 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 103

62 [Q585](#)

63 [Artificial Intelligence and Digital Regulations Service launches](#), NHS Health Research Authority, 7 March 2023

64 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 15

65 [Implementing the UK’s AI Regulatory Principles: Initial Guidance for Regulators](#), Department for Science, Innovation and Technology, 6 February 2024

46. *The regulatory gap analysis being undertaken by the Government should identify, in consultation with the relevant regulators and co-ordinating entities such as the Digital Regulation Cooperation Forum and the AI and Digital Regulations Service, areas where new AI models and tools will necessitate closer regulatory co-operation, given the extent to which some uses for AI, and some of the challenges these can present—such as accelerating existing biases—are covered by more than one regulator. The gap analysis should also put forward suggestions for delivering this co-ordination, including joint investigations, a streamlined process for regulatory referrals, and enhanced levels of information sharing.*

Resourcing

47. Some regulators, such as the FCA, are “... funded entirely by the fees [they] charge regulated firms”.⁶⁶ Similarly, Ofcom receives fees from “... the companies we regulate... these could be broadcasters, telecoms providers, or firms in the postal sector”. The fees are based on company revenues and the amount of work undertaken by Ofcom in their sectors, although an overall spending cap is applied through the Government Spending Review process.⁶⁷ Other regulators, such as the Information Commissioner’s Office, supplement fees with a Government grant-in-aid.⁶⁸

48. The picture is similarly mixed in other jurisdictions. In the European Union (EU), some decentralised agencies such as the European Medicines Agency are funded through a combination of regulatory fees and contributions from the EU budget;⁶⁹ whilst other such as the EU Intellectual Property Office are “... financed through registration fees without imposing any burden on the EU or its taxpayers”.⁷⁰ In the United States, bodies such as the Federal Trade Commission and Food and Drug Administration rely upon a combination of user fees and budget requests submitted to Congress.⁷¹

49. In a Report examining regulator’s performance, published in February 2024, the House of Lords Industry and Regulators Committee expressed concern that some regulators in the UK “... appear not to have sufficient resources to carry out their existing functions effectively, while others have had their responsibilities extended without an increase in resources to match”.⁷²

50. Our Inquiry heard that some regulators would require additional support to help them meet the challenges posed by the growing prevalence of AI in their sectors.⁷³ Dame Melanie Dawes, Chief Executive of Ofcom, told us that Ofcom had experienced:

66 [About the FCA](#), Financial Conduct Authority, accessed 23 May 2024

67 [How is Ofcom funded?](#) Ofcom, 25 April 2024

68 [How we are funded](#), Information Commissioner’s Office, accessed 23 May 2024

69 [Funding](#), European Medicines Agency, accessed 23 May 2024

70 [About us](#), European Union Intellectual Property Office, accessed 23 May 2024

71 [Congressional Budget Justification Fiscal Year 2025](#), Federal Trade Commission, accessed 23 May 2024; [FY 2025 FDA Budget Summary](#), Food and Drug Administration, accessed 23 May 2024

72 House of Lords Industry and Regulators Committee, First Report of Session 2023–24, [Who watches the watchdogs? Improving the performance, independence and accountability of UK regulators](#), HL Paper 56, para 134

73 [A pro-innovation approach to AI regulation](#), CP 815, Department for Science, Innovation and Technology, 29 March 2023, p. 62

... a flat cash budget cap from the Treasury for many years now. I think at some point that will start to create real constraints for us. We have become very good at driving efficiency, but if the Government were to ask us to do more in the field of AI, we would need new resources to be able to do that.⁷⁴

51. Similar concerns were noted by the Committee on Standards in Public Life (CSPL), an advisory non-departmental public body that has examined the implications of AI's increasing prevalence, including for regulators.⁷⁵ The CSPL has said that whilst many regulators had identified AI as a strategic priority, "... some regulators told us that because they operate under restricted financial resources, the speed and scale at which they can address the implications of AI is limited".⁷⁶

52. The Secretary of State for Science, Innovation and Technology and Sarah Munby, Permanent Secretary at the Department for Science, Innovation and Technology (DSIT) told us that the Government would continue to support regulators as required.⁷⁷ In its AI White Paper consultation response, the Government said that it had asked a number of regulators to set out publicly how they intend to respond to the use of AI in their respective sectors.⁷⁸

53. In addition to a "... central function to support effective risk monitoring, regulator coordination, and knowledge exchange" the AI White Paper consultation response announced £10 million in funding to "jumpstart regulators' AI capabilities" and "... help our regulators develop cutting-edge research and practical tools to build the foundations of their AI expertise and everyday ability to address AI risks...".⁷⁹ It has also highlighted the role of the DRCF in the dissemination of best practice.⁸⁰

54. If this £10 million were divided equally amongst the 14 regulators who were asked to publish their intended approaches to AI by the end of April 2024,⁸¹ each would receive an amount equivalent to approximately 0.0085% of the reported annual UK turnover of Microsoft in the year to June 2023.⁸²

55. The increasing prevalence and general-purpose nature of AI will create challenges for the UK's sectoral regulators, however expert they may be. The AI challenge can be summed up in a single word: capacity. Ofcom, for example, is combining implementation of a broad new suite of powers conferred on it by the Online Safety Act 2023, with formulating a comprehensive response to AI's deployment across its wider remit. Others will be required to undertake resource-intensive investigations and it is vital that they are able, and empowered, to do so. All will be required to pay greater attention to the outputs of AI tools in their sectors, whilst paying due regard to existing innovation and growth-related objectives.

74 [Q543](#)

75 Committee on Standards in Public Life ([GAI0110](#))

76 [Artificial intelligence and public standards: an update on progress made against our 2020 recommendations](#), Committee on Standards in Public Life, 6 March 2024

77 [Qq. 767–778](#)

78 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 14

79 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 7

80 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 55

81 [Regulators' strategic approaches to AI](#), Department for Science, Innovation and Technology, 1 May 2024

82 [Jobs boost at Microsoft as UK revenues hit £8bn](#), The Times, 27 April 2024

56. **The announced £10 million to support regulators in responding to the growing prevalence of AI is clearly insufficient to meet the challenge, particularly when compared to the UK revenues of leading AI developers.**

57. The next Government must announce further financial support, agreed in consultation with regulators, that is commensurate to the scale of the task. It should also consider the benefits of a one-off or recurring industry levy, that would allow regulators to supplement or replace support from the Exchequer for their AI-related activities.

5 AI in the public and private sectors

58. The Government has paid increasingly close attention to the deployment of AI in the public sector and announced a number of initiatives to deliver its ambitions. In this Chapter, we assess the Government’s efforts to support increased uptake of AI in the public and private sectors.

Public sector

59. A National Audit Office (NAO) report found in 2023 that the Central Digital and Data Office (part of the Cabinet Office), DSIT and HM Treasury began to develop a strategy for AI adoption in the public sector. The NAO found that “high-level activities and timescales” had been agreed, but the draft strategy did not “... set out which department has overall ownership of the strategy and accountability for its delivery or how it will be funded and resourced. Performance measures are also still to be determined”.⁸³

i.AI

60. In November 2023 the Deputy Prime Minister and Chancellor of the Duchy of Lancaster, and Secretary of State in the Cabinet Office (henceforth Deputy Prime Minister), Rt. Hon. Oliver Dowden CBE MP, announced the establishment of an Incubator for Artificial Intelligence (i.AI). This is comprised of an initial team of 30 technical experts “... to design and implement AI solutions across government departments to drive improvements in public service delivery”,⁸⁴ and was subsequently confirmed that the i.AI team would increase in size to 70, having instigated 10 pilot programmes since its launch.⁸⁵

61. The NAO has found that i.AI will require an estimated £101 million in funding over five years between 2024–25 and 2028–29.⁸⁶ Examples of its work to date have included i.AI assisting the Public Sector Fraud Authority in the development of AI-enabled fraud detection tools.⁸⁷

Public sector productivity programme

62. Announced by the Chancellor of the Exchequer, Rt. Hon. Jeremy Hunt MP, in June 2023 and detailed at subsequent fiscal events,⁸⁸ the public sector productivity programme has been described as seeking to secure “the potential productivity benefits from applying AI to routine tasks across the public sector”, in services such as education and policing.⁸⁹

63. At the March 2024 Spring Budget the Chancellor announced that £4.2 billion of funding would be allocated to “... the strongest productivity releasing projects that

83 [Use of artificial intelligence in government](#), National Audit Office, HC 612, p. 18

84 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 21

85 [Deputy Prime Minister speech on AI for Public Good](#), GOV.UK, 29 February 2024

86 [Use of artificial intelligence in government](#), National Audit Office, HC 612, p. 17

87 [“Criminals should be aware” says Minister as Government upgrades AI fraud detection tool](#), GOV.UK, 14 March 2024

88 [Hunt announces ‘most ambitious public sector productivity review ever’](#), Civil Service World, 13 June 2023

89 [Chancellor to cut admin workloads to free up frontline staff](#), GOV.UK, 18 November 2023

departments have identified through the programme to date”.⁹⁰ These include the deployment of AI to improve or automate existing processes, such as a £3.4 billion by 2030 for a “technological and digital transformation” of the NHS.⁹¹

64. HM Treasury also confirmed in a paper published alongside the Budget that it would, working in partnership with the Cabinet Office and i.AI, assist in the delivery of “... AI adoption plans for every department in time for the next Spending Review and... expand the application of automation and AI across the range of priority areas”.⁹²

Ministerial and Cabinet groups

65. The Government has outlined mechanisms to coordinate departmental AI activity, including an Inter-Ministerial Group and the designation of lead AI Ministers across all departments “... to bring together work on risks and opportunities driven by AI in their sectors and to oversee implementation of frameworks and guidelines for public sector usage of AI”.⁹³

Encouraging adoption

66. Both the Cabinet Office and DSIT have announced initiatives to underpin adoption of AI across the public sector. The former has confirmed that it will “... [improve] digital infrastructure and access to data sets, and [develop] centralised standards”,⁹⁴ whilst the Central Digital and Data Office, part of the Cabinet Office, has published guidance on the use of generative AI in Government.⁹⁵

67. Government Digital Service, also part of the Cabinet Office, has experimented with a generative AI chatbot, GOV.UK Chat, but found that its “... answers did not reach the highest level of accuracy demanded for a site like GOV.UK, where factual accuracy is crucial”.⁹⁶ The Cabinet Office and Infrastructure Project Authority have also encouraged “... responsible experimentation with AI to find solutions to the biggest challenges in public projects”.⁹⁷

68. The Government response to the AI White Paper consultation confirmed that use of the Algorithmic Transparency Recording Standard (ATRS), a tool designed to increase transparency from public sector organisations about how they use algorithmic tools to support decision-making,⁹⁸ would become a requirement for all Government departments during 2024 and “... across the broader public sector over time”.⁹⁹

90 [Spring Budget 2024](#), HC 560, HM Treasury, 6 March 2024, p. 31

91 [Spring Budget 2024](#), HC 560, HM Treasury, 6 March 2024, pp. 31–35

92 [Seizing the opportunity: delivering efficiency for the public](#), HM Treasury, 6 March 2024, p. 32

93 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 17

94 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 22

95 [Generative AI Framework for HMG](#), Cabinet Office and Central Digital & Data Office, 18 January 2024

96 [The findings of our first generative AI experiment: GOV.UK Chat](#), Inside GOV.UK, 18 January 2024

97 [Government to harness the power of AI to improve public project delivery under new framework](#), GOV.UK, 20 March 2024

98 [Algorithmic Transparency Recording Standard Hub](#), Central Digital and Data Office and Department for Science, Innovation and Technology, accessed 23 May 2024

99 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, pp. 22, 40

Private sector

69. The Government has also launched a series of initiatives intended to support private sector adoption of AI. The Secretary of State for Science, Innovation and Technology and the Prime Minister’s Special Adviser on Business and Investment, Lord Petitgas, established an AI Opportunity Forum with business leaders. It discussed interrelated issues such as “... AI culture and skills of organisations in the UK, how they manage governance, awareness, and risks of the technology, and the availability of data”.¹⁰⁰

70. The Forum has also discussed the challenges that businesses have faced when seeking to adopt AI, including access to data and access to compute¹⁰¹—two Challenges of AI Governance highlighted in our interim Report and discussed in Chapter 6 of this Report. The Government has said that the Forum will produce “a product that will inspire businesses, whether they are a Silicon Roundabout start-up or a family-run firm, to start using AI”, but had yet to confirm a publication date when our Report was finalised.¹⁰²

71. The Chancellor also announced the launch of an SME Digital Adoption Taskforce at the Spring Budget 2024, along with an upskilling fund pilot targeted at SMEs. The pilot, applications for which closed on 31 May, will make £6.4 million of grant funding available in 2024–25.¹⁰³ Successful applicants may receive up to 50% of the cost of “... training which supports employees to develop their technical skills and/or understanding of AI to be able to develop, deploy, or use AI in their role”.¹⁰⁴

72. DSIT has produced guidance on AI assurance, which detailed how organisations could “... measure and evaluate their systems and communicate that their systems are trustworthy and aligned with relevant regulatory principles”.¹⁰⁵ It has also supported the establishment of an AI and Digital Hub aimed at “... innovators with queries concerning cross-regulatory AI and digital issues”, led by the Digital Regulation Cooperation Forum, a co-ordinating body.¹⁰⁶

73. AI can be used to increase productivity and augment the contributions of human workers in both the public and private sectors. We welcome the establishment of i.AI and the focus on AI deployment set out in the public sector productivity programme; as well as initiatives to increase business adoption such as the AI and Digital Hub.

74. *The next Government should drive safe adoption of AI in the public sector via i.AI, the National Science and Technology Council and designated lead departmental Ministers for AI.*

75. *In its response to this Report, the Government should confirm the full list of public sector pilots currently being led or supported by i.AI, the criteria that determined i.AI pilot project selections, how it intends to evaluate their success and decide whether to roll them out more widely, and what other pilots are planned for the remainder of 2024.*

100 [Business and tech heavyweights to boost productivity through AI](#), GOV.UK, 25 January 2024

101 [AI Opportunity Forum holds first meeting](#), GOV.UK, 15 February 2024

102 [AI Opportunity Forum holds penultimate meeting](#), GOV.UK, 9 May 2024

103 [Spring Budget 2024](#), HC 560, HM Treasury, 6 March 2024, p. 61

104 [Flexible AI Upskilling Fund pilot: open for applications](#), Department for Science, Innovation and Technology, accessed 23 May 2024

105 [Introduction to AI Assurance](#), Department for Science, Innovation and Technology, 12 February 2024, p. 15

106 [AI and Digital Hub](#), Digital Regulation Cooperation Forum, accessed 23 May 2024

76. i. AI should undertake an assessment of the existing civil service workforce's AI capability, identify areas of the public sector that would benefit the most from the use of AI and where value for money can be delivered, set out how potential risks associated with its use should be mitigated, and publish a detailed AI public sector action plan. Progress against these should be reported to Parliament on an annual basis and through regular written or oral statements by Ministers.

77. The requirement for Government departments to use the Algorithmic Transparency Recording Standard should be extended to all public bodies sponsored by Government departments, from 1 January 2025.

6 The AI Safety Institute

78. In our interim Report we welcomed the establishment of the then-Foundation Model Taskforce.¹⁰⁷ The Taskforce has subsequently become a permanent entity as the AI Safety Institute,¹⁰⁸ and assumed a key role in the UK's AI governance framework. In this Chapter we examine the role of the Institute, its priorities, and the AI Safety Summits it has informed.

From Taskforce to Institute

79. Shortly after the publication of our interim Report, the Foundation Model Taskforce was renamed the Frontier Model Taskforce and announced that several leading AI researchers and technical organisations had joined or partnered with it.¹⁰⁹ In its first progress report, the Taskforce said that it had offered these individuals:

... the opportunity to fundamentally alter society's approach to tackling risks at the frontier of AI. These researchers and engineers will bring their skills towards giving the government the capability to work directly on frontier AI models and evaluate their risks—through model evaluations, red-teaming,¹¹⁰ and other aspects of safety infrastructure.¹¹¹

To date, the Institute has recruited both academic researchers, from institutions including Cambridge University, the University of Oxford and Harvard University; and technical experts with experience at leading developers, including Google DeepMind, Microsoft and OpenAI.¹¹²

80. It is a credit to the commitment of those involved that the AI Safety Institute has been swiftly established, with an impressive and growing team of researchers and technical experts recruited from leading developers and academic institutions. The next Government should continue to empower the Institute to recruit the talent it needs.

The AI Safety Summit

81. The need to evaluate the most advanced AI models from a safety perspective was emphasised by the Prime Minister, Rt. Hon. Rishi Sunak MP, during a speech in June 2023.

107 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 108

108 [Introducing the AI Safety Institute](#), CP 960, Department for Science, Innovation and Technology, 2 November 2023. The Institute will receive a continuation of the Taskforce's 2024–25 funding as an annual amount for the remainder of this decade.

109 [Frontier AI Taskforce: first progress report](#), Department for Science, Innovation and Technology, 7 September 2023

110 Red-teaming is a military term, described by the [Ministry of Defence](#) as intended to challenge existing thinking by seeking "... an external viewpoint separate to that of 'home team' decision-makers and problem solvers". In AI model development, red-teaming processes subject models to technical attacks to identify weaknesses and create a more robust product. [Google's Red Team](#) "... consists of a team of hackers that simulate a variety of adversaries, ranging from nation states and well-known Advanced Persistent Threat groups to hackers, individual criminals or even malicious insiders".

111 [Frontier AI Taskforce: first progress report](#), Department for Science, Innovation and Technology, 7 September 2023

112 [Frontier AI Taskforce: first progress report](#), Department for Science, Innovation and Technology, 7 September 2023; [Frontier AI Taskforce: second progress report](#), 30 October 2023; [AI Safety Institute: third progress report](#), Department for Science, Innovation and Technology, 5 February 2024

He said that for the UK “... leading on AI also means leading on AI safety”.¹¹³ In its second progress report the then-Taskforce said that it was “... critical that frontier AI systems are developed safely and that the potential risks of new models are rigorously and independently assessed for harmful capabilities before and after they are deployed”.¹¹⁴

82. The Prime Minister said that his vision for the UK as a leader in AI would be realised via three strands of work: that undertaken by the Taskforce, the pursuit of global cooperation, and the deployment of AI “... to improve people’s lives”.¹¹⁵ The first two have been initiated through the work of the AI Safety Institute and the organisation of an AI Safety Summit at Bletchley Park in November 2023.¹¹⁶ The Government set five objectives for the Summit:

- a shared understanding of the risks posed by frontier AI and the need for action;
- a forward process for international collaboration on frontier AI safety, including how best to support national and international frameworks;
- appropriate measures which individual organisations should take to increase frontier AI safety;
- areas for potential collaboration on AI safety research, including evaluating model capabilities and the development of new standards to support governance; and
- showcase how ensuring the safe development of AI will enable AI to be used for good globally.¹¹⁷

What was achieved?

83. Shortly before the Summit, the Prime Minister confirmed that the Frontier AI Taskforce would become a permanent body, the AI Safety Institute.¹¹⁸ Seven leading AI developers—Amazon, Anthropic, Google DeepMind, Inflection, Meta, Microsoft and OpenAI—published their safety policies ahead of the Summit.¹¹⁹ These, together with a collection of discussion papers prepared by the Government and the Taskforce,¹²⁰ informed the roundtable discussions held over two days at Bletchley Park.¹²¹

113 [PM London Tech Week speech](#), GOV.UK, 12 June 2023

114 [Frontier AI Taskforce: second progress report](#), 30 October 2023

115 [PM London Tech Week speech](#), GOV.UK, 12 June 2023

116 [AI Safety Summit: introduction](#), Department for Science, Innovation and Technology, 31 October 2023

117 [AI Safety Summit: introduction](#), Department for Science, Innovation and Technology, 31 October 2023

118 [Prime Minister’s speech on AI: 26 October 2023](#), GOV.UK, 26 October 2023

119 [Leading frontier AI companies publish safety policies](#), GOV.UK, 27 October 2023

120 [Capabilities and risks from frontier AI: A discussion paper on the need for further research into AI risk](#), Department for Science, Innovation and Technology, 25 October 2023; [Future Risks of Frontier AI: Which capabilities and risks could emerge at the cutting edge of AI in the future?](#), Government Office for Science, 27 October 2023; [Emerging processes for frontier AI safety](#), Department for Science, Innovation and Technology, 27 October 2023; [Safety and Security Risks of Generative Artificial Intelligence to 2025](#), HM Government, 27 October 2023

121 [AI Safety Summit 2023: Roundtable Chairs’ Summaries, 1 November](#), Department for Science, Innovation and Technology, 1 November; [AI Safety Summit 2023: Roundtable Chairs’ Summaries, 2 November](#), Department for Science, Innovation and Technology, 3 November 2023

84. Speaking to us after the Summit, the Prime Minister’s Summit representative and Chair of the Advanced Research and Invention Agency, Matt Clifford CBE, said that in addition to placing AI safety on the international agenda, the Summit had achieved four substantive outcomes:

- the Bletchley Declaration on AI Safety, signed by 28 attending nations and the European Union;¹²²
- agreement that a State of the Science report will be produced by expert representatives of the 28 countries,¹²³ inspired, Mr Clifford told us, by the Intergovernmental Panel on Climate Change;
- agreement by nine leading AI developers¹²⁴ “... to work with Governments, including national security actors, to do pre-deployment testing of those models for the most extreme risks”;¹²⁵ and
- agreement that further AI Safety Summits would be hosted by the Republic of Korea and France.¹²⁶

85. In May 2024, the AI Seoul Summit saw 16 leading developers agree to implement eight commitments focused on mitigating the “severe risks” posed by the most advanced AI; with operational updates promised by an early 2025 Summit, to be hosted by France.¹²⁷ These commitments are intended to deliver three outcomes:

- organisations effectively identify, assess and manage risks when developing and deploying their frontier AI models and systems;
- organisations are accountable for safely developing and deploying their frontier AI models and systems; and
- organisations’ approaches to frontier AI safety are appropriately transparent to external actors, including governments.¹²⁸

Future priorities

86. The AI Safety Institute has said that it “... is not a regulator and will not determine government regulation”; but would focus on the evaluation of advanced AI, drive

122 [The Bletchley Declaration by Countries Attending the AI Safety Summit, 1–2 November 2023](#), Department for Science, Innovation and Technology, 1 November 2023

123 [‘State of the Science’ Report to Understand Capabilities and Risks of Frontier AI: Statement by the Chair](#), Department for Science, Innovation and Technology, 2 November 2023

124 The developers were Amazon Web Services, Anthropic, Google, Google DeepMind, Inflection AI, Meta, Microsoft, Mistral AI, Open AI and xAI

125 [Safety Testing: Chair’s Statement of Session Outcomes](#), Department for Science, Innovation and Technology, 2 November 2023

126 [World leaders, top AI companies set out plan for safety testing of frontier as first global AI Safety Summit concludes](#), GOV.UK, 2 November 2023; [UK and Republic of Korea to build on legacy of Bletchley Park](#), GOV.UK, 12 April 2024; [Qq. 658–659](#)

127 [Frontier AI Safety Commitments: AI Seoul Summit 2024](#), Department for Science, Innovation and Technology, 21 May 2024

128 [Frontier AI Safety Commitments: AI Seoul Summit 2024](#), Department for Science, Innovation and Technology, 21 May 2024

foundational AI safety research, and facilitate information exchange between national and international actors.¹²⁹ Emran Mian, Director General for Digital Technologies and Telecoms at DSIT, explained to us why the Institute would undertake safety evaluations:

... the companies are doing quite a lot of the testing. That is great and positive. It is right that they should do it and that they should contribute to the development of the science on safety; but relying solely on the companies gives us some pause for thought, both because of the commercial imperatives that the companies may have in the rush to market, but also in the classic issue that arises in these kinds of safety conversations, about companies marking their own homework.¹³⁰

The Institute has emphasised that it would not “... designate any particular AI system as ‘safe’ ... [nor] hold responsibility for any release decisions”.¹³¹

87. In its third progress report the Institute confirmed that it had begun testing models,¹³² and that these had been selected based on “... estimates of the risk of a system possessing harmful capabilities, using inputs such as compute used for training, as well as expected accessibility”.¹³³ In May 2024, the Institute released the results of its evaluations of five publicly-available models,¹³⁴ and has also announced a programme of joint work with its counterpart in the United States that will include “... at least one joint testing exercise on a publicly accessible model”.¹³⁵

88. Exactly which model, or models, the Institute will undertake pre-release testing on was not confirmed by the Secretary of State for Science, Innovation and Technology when questioned in the House of Commons,¹³⁶ and had not been confirmed at the time our Report was finalised. It was reported by the news outlet Politico in April that only Google DeepMind had allowed access to its Gemini model for pre-release testing, and that Anthropic, Meta and OpenAI had yet to grant access to as-yet unreleased models.¹³⁷

89. Although the Institute is not a regulator, it has undeniably played a decisive role in shaping the UK’s regulatory approach to AI. We commend the work of the Institute and its researchers in facilitating and informing the ongoing international conversation about AI governance.

90. However, we are concerned by suggestions that the Institute has been unable to access as-yet unreleased AI models to perform the pre-deployment safety testing it was set up to undertake. If true, this would undermine the delivery of the Institute’s mission and its ability to increase public trust in the technology.

91. *In its response to this Report, the Government should confirm which models the AI Safety Institute has undertaken pre-deployment safety testing on, the nature of the*

129 [Introducing the AI Safety Institute](#), CP 960, Department for Science, Innovation and Technology, p. 8

130 [Q667](#)

131 [Introducing the AI Safety Institute](#), CP 960, Department for Science, Innovation and Technology, p. 9

132 [AI Safety Institute: third progress report](#), Department for Science, Innovation and Technology, 5 February 2024

133 [AI Safety Institute approach to evaluations](#), Department for Science, Innovation and Technology, 9 February 2024

134 [Advanced AI evaluations at AISI: May update](#), AI Safety Institute, 20 May 2024

135 [UK & United States announce partnership on science of AI safety](#), GOV.UK, 2 April 2024

136 HC Deb, 17 April 2024, [col 288](#) (Commons Chamber)

137 [Rishi Sunak struggles to implement his ‘landmark’ AI testing deal](#), Politico, 19 April 2024

testing, a summary of the findings, whether any changes were made by the model's developers as a result, and whether any developers were asked to make changes but declined to do so.

92. *The Government should also confirm which models the Institute has been unable to secure access to, and the reason for this. If any developers have refused access—which would represent a contravention of the reported agreement at the November 2023 Summit at Bletchley Park—the Government should name them and detail their justification for doing so.*

7 The international dimension

93. The UK is not the only jurisdiction to have dedicated significant thought and resource to the development of its AI governance framework. The United States and the European Union have over the course of our Inquiry debated and developed their own regulatory regimes. In this Chapter we will examine the steps taken by policymakers in Washington, D. C. and Brussels.

The United States

94. The United States (US) is home to leading AI developers and start-ups such as OpenAI and Anthropic.¹³⁸ It has led each edition of the Tortoise AI Index, a ranking of countries by AI implementation, innovation and investment.¹³⁹ According to data from the Organisation for Economic Co-operation and Development (OECD), the US since 2012 has accounted for an average of 56% of global annual venture capital investment in AI and led the ranking for this metric in all but two years during the same period.¹⁴⁰

95. Leading ‘Big Tech’ firms based in the US have also emerged as significant investors in AI,¹⁴¹ with Microsoft having reportedly committed up to \$13 billion to OpenAI, the developer behind ChatGPT, including a \$10 billion investment announced in January 2023.¹⁴²

Voluntary commitments

96. Just as the UK secured voluntary commitments from leading AI developers,¹⁴³ the White House announced in July 2023 that Amazon, Anthropic, Google, Inflection, Meta, Microsoft, and OpenAI had agreed to make “... voluntary commitments... to help move toward safe, secure, and transparent development of AI technology”.¹⁴⁴ A further eight companies signed up to the commitments in September.¹⁴⁵

97. The White House has described the voluntary commitments as intended “... to advance a generative AI legal and policy regime” and said that it envisioned them “... remain[ing] in effect until regulations covering substantially the same issues come into force”.¹⁴⁶ The commitments included:

- internal and external red-teaming of models or systems in areas including misuse, societal risks, and national security concerns;

138 [Meet the generative AI startups pulling in the most cash](#), PitchBook, 18 October 2023

139 [The Global AI Index](#), Tortoise, accessed 23 May 2024

140 [Live data: top countries in VC investments in AI by industry](#), OECD.AI visualisations powered by JSI using data from Preqin, accessed 23 May 2024

141 [Big Tech outspends venture capital firms in AI investment frenzy](#), Financial Times, 29 December 2023

142 [How Microsoft’s multibillion-dollar alliance with OpenAI really works](#), Financial Times, 15 December 2023

143 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 7

144 [FACT SHEET: Biden- Harris Administration Secures Voluntary Commitments from Leading Artificial Intelligence Companies to Manage the Risks Posed by AI](#), The White House, 21 July 2023

145 [FACT SHEET: Biden- Harris Administration Secures Voluntary Commitments from Eight Additional Artificial Intelligence Companies to Manage the Risks Posed by AI](#), The White House, 12 September 2023

146 [Voluntary AI Commitments](#), The White House, 12 September 2023, p. 1

- information sharing among companies and governments regarding trust and safety risks, dangerous or emergent capabilities, and attempts to circumvent safeguards;
- develop and deploy mechanisms that enable users to understand if audio or visual content is AI-generated; and
- disclosure of model or system capabilities, limitations, and domains of appropriate and inappropriate use, including discussion of societal risks, such as effects on fairness and bias.¹⁴⁷

98. Although wide-ranging, the scope of the commitments was limited. The White House said that “... where commitments mention particular models, they apply only to generative models that are overall more powerful than the current most advanced model produced by the company making the commitment”.¹⁴⁸

Executive Order

99. Direct industry engagement in the form of the voluntary commitments was followed in October 2023 by the announcement of a Presidential Executive Order on the safe, secure and trustworthy development and use of AI,¹⁴⁹ which although primarily applicable to Federal departments and agencies, was notable for its utilisation of the Defense Production Act, a law passed during the Cold War that has afforded Presidents “... significant emergency authority to control domestic industries”.¹⁵⁰

100. The Executive Order detailed 26 requirements across eight areas, including standards for AI safety and security, advancing equity and civil rights, and ensuring responsible and effective Government use of AI.¹⁵¹ It placed safety testing, risk mitigation and reporting requirements on developers of the most powerful models, with any model trained using compute power above a set threshold required to comply.¹⁵²

State-level initiatives

101. The White House has stated its desire to pursue the successful passage of bipartisan AI-specific legislation through the United States Congress,¹⁵³ but as the November 2024 Presidential election nears the Federal legislative process has slowed and the prospect of new legislation being passed reduced.¹⁵⁴

147 [Voluntary AI Commitments](#), The White House, 12 September 2023, pp. 1–3

148 [Voluntary AI Commitments](#), The White House, 12 September 2023, p. 1

149 [Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence](#), The White House, 30 October 2023

150 [What Is the Defense Production Act?](#) Council on Foreign Relations, 22 December 2021

151 [FACT SHEET: President Biden Issues Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence](#), The White House, 30 October 2023

152 [Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence](#), The White House, 30 October 2023

153 [FACT SHEET: Biden- Harris Administration Secures Voluntary Commitments from Eight Additional Artificial Intelligence Companies to Manage the Risks Posed by AI](#), The White House, 12 September 2023

154 [Capitol Hill stunner: 2023 led to fewest laws in decades](#), Axios, 18 December 2023

102. In the absence of Federal legislation, policymakers in states such as California,¹⁵⁵ Colorado,¹⁵⁶ Florida¹⁵⁷ and New York¹⁵⁸ have introduced bills and measures targeted at the development and deployment of AI. According to LexisNexis, a data analytics company, “as of January 11 [2024], 89 bills referring to AI had been pre-filed or introduced in 20 states... [in addition to] more than 100 AI bills that are being carried over from last year”.¹⁵⁹

103. California’s Privacy Protection Agency has also published draft proposals for a regime to establish individual “... opt-out rights, pre-use notice requirements and access rights which would enable state residents to obtain meaningful information on how their data is being used for automation and AI tech”.¹⁶⁰

The EU AI Act

104. In December 2023 political agreement was reached between representatives of the European Parliament, the Council of the European Union and the European Commission on the European Union (EU) AI Act.¹⁶¹ This was followed by the approval of ambassadors from the 27 EU member states in February 2024,¹⁶² and a European Parliament ratification vote in March 2024.¹⁶³ This represented the culmination of a legislative process that began in April 2021 with the publication of draft proposals by the Commission.¹⁶⁴

A risk-based approach

105. The AI Act takes a ‘horizontal’,¹⁶⁵ risk-based approach, with AI uses categorised into four levels of risk. The EU institutions have also agreed specific requirements for general-purpose AI models. The risk categories are set out below.

Minimal risk

106. Examples of uses deemed to present minimal risk included AI-assisted recommender systems, which suggest or recommend additional products to consumers,¹⁶⁶ or spam filters. The Commission has said that “the vast majority” of uses for AI will fall into this category and will not be subject to any additional requirements beyond existing legislation.¹⁶⁷

155 [California’s privacy watchdog eyes AI rules with opt-out and access rights](#), TechCrunch, 27 November 2023

156 [The Colorado AI Act: What you need to know](#), International Association of Privacy Professionals, 21 May 2024

157 [What States are Making Moves in US AI Regulation in 2024?](#) Holistic AI, 11 January 2024

158 [What States are Making Moves in US AI Regulation in 2024?](#) Holistic AI, 11 January 2024

159 [State AI Legislation Off to Quick Start in 2024](#), LexisNexis, 16 January 2024

160 [California’s privacy watchdog eyes AI rules with opt-out and access rights](#), TechCrunch, 27 November 2023

161 [Commission welcomes political agreement on Artificial Intelligence Act](#), European Commission, 9 December 2023

162 [EU countries give crucial nod to first-of-a-kind Artificial Intelligence law](#), Euractiv, 2 February 2024

163 [Artificial Intelligence Act: MEPs adopt landmark law](#), European Parliament, 13 March 2024

164 [Regulation of the European Parliament and the Council laying down harmonised rules on artificial intelligence \(Artificial Intelligence Act\) and amending certain Union legislative acts](#), European Commission, 21 April 2021

165 [AI in the EU and UK: two approaches to regulation and international leadership](#), UK in a changing Europe, 26 January 2023

166 [Recommendation System](#), NVIDIA, accessed 23 May 2024

167 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

High-risk

107. An Annex to the AI Act listed uses to be designated as high-risk.¹⁶⁸ Examples included tools used in recruitment, the judicial system or democratic processes.¹⁶⁹ The Commission has said that the list will be updated as appropriate.¹⁷⁰ High-risk uses will be permitted subject to compliance with requirements such as “... risk-mitigation systems, high quality of data sets, logging of activity, detailed documentation, clear user information, human oversight, and a high level of robustness, accuracy and cybersecurity”.¹⁷¹

Unacceptable risk

108. Once fully in force the AI Act will ban a small number of uses that have been deemed to pose an unacceptable level of risk, including:

- real-time remote biometric identification in publicly accessible spaces by law enforcement, subject to narrow exceptions;¹⁷²
- categorisation of people based on biometric data to deduce or infer their race, political opinions, trade union membership, religious or philosophical beliefs or sexual orientation. Law enforcement will still be permitted to filter datasets based on biometric data;
- individual predictive policing, a practice that uses algorithms and data to make crime-related predictions;¹⁷³
- emotion recognition in workplaces and education institutions, unless for medical or safety reasons such as monitoring the tiredness levels of a pilot; and
- untargeted scraping of internet or CCTV for facial images to build up or expand databases.¹⁷⁴

Transparency

109. The AI Act introduces transparency requirements to ensure that citizens are made aware whenever they interact with a machine, such as in the use of chatbots. It also introduced a requirement for “... AI generated content... to be labelled as such, and users need to be informed when biometric categorisation or emotion recognition” tools are deployed.¹⁷⁵

168 [Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence \(Artificial Intelligence Act\) and amending certain Union legislative acts, Annex III](#), Council of the European Union, p. 248

169 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

170 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

171 [Commission welcomes political agreement on Artificial Intelligence Act](#), European Commission, 9 December 2023

172 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

173 [AI in policing and security](#), Parliamentary Office of Science and Technology, 29 April 2021

174 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

175 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

General-purpose AI

110. Under the provisions of the AI Act general-purpose models, including those that underpin generative AI tools such as GPT-4¹⁷⁶ or Google Gemini¹⁷⁷ will be subject to specific requirements designed to ensure transparency and provide reassurances to those who deploy them.¹⁷⁸

111. For models that have been trained using compute power above a certain threshold and that are deemed to potentially “... pose systemic risks, there will be additional binding obligations related to managing risks and monitoring serious incidents, performing model evaluation and adversarial testing”.¹⁷⁹ These will be put into practice “... through codes of practices developed by industry, the scientific community, civil society and other stakeholders together with the Commission”.¹⁸⁰

Implementation, enforcement and exemptions

112. The AI Act “... will be fully applicable 24 months after entering into force”,¹⁸¹ likely meaning during June 2026.¹⁸² Some provisions, including the bans on prohibited uses outlined above, will enter into force by the end of 2024 and others, such as the provisions relating to general-purpose AI, are expected to apply from June 2025.¹⁸³ It will apply to “public and private actors inside and outside the EU as long as the AI system is placed on the Union market, or its use affects people located in the EU”.¹⁸⁴

113. Enforcement of the AI Act has been made a joint responsibility of designated authorities in each EU member state,¹⁸⁵ and a new European AI Office within the Commission, which has been tasked with enforcing the provisions that apply to general-purpose AI.¹⁸⁶

114. The International Association of Privacy Professionals (IAPP), a trade body, has pointed out that successful implementation of the AI Act will require skilled staff in each member state authority, with “... sufficient expertise in fundamental rights law, personal data protection and others”.¹⁸⁷ The same can be said of the Commission’s AI Office, which has begun to recruit staff.¹⁸⁸

115. Some member states, such as Spain, have established new entities to act as their designated authority. Others, such as Luxembourg, Ireland and the Netherlands, have assigned the task to existing public bodies or Government departments.¹⁸⁹ The IAPP has

176 [GPT-4](#), OpenAI, accessed 23 May 2024

177 [Gemini](#), Google, accessed 23 May 2024

178 [Commission welcomes political agreement on Artificial Intelligence Act](#), European Commission, 9 December 2023

179 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

180 [Commission welcomes political agreement on Artificial Intelligence Act](#), European Commission, 9 December 2023

181 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

182 [Commission presses governments to appoint AI regulators](#), Euronews, 3 April 2024

183 [Commission presses governments to appoint AI regulators](#), Euronews, 3 April 2024

184 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

185 [As the EU AI Act enters into force, focus shifts to countries’ oversight appointments](#), Euronews, 12 March 2024

186 [Commission Decision Establishing the European AI Office](#), European Commission, 24 January 2024

187 [Will the EU AI Act work? Lessons learned from past legislative initiatives, future challenges](#), International Association of Privacy Professionals, 17 April 2024

188 [Commission to look for head of AI Office only when law is fully approved](#), Euronews, 20 March 2024

189 [As the EU AI Act enters into force, focus shifts to countries’ oversight appointments](#), Euronews, 12 March 2024

highlighted the uneven states of readiness among European regulators, with enforcement of the AI Act described by some as “a tall order”.¹⁹⁰ Non-compliance can be punishable by fines of up to €35 million or 7% of the offender’s total worldwide annual turnover in the previous financial year, whichever is higher.¹⁹¹

116. The scope of the AI Act is not unlimited. The following uses are exempt:

- uses of AI designated as minimal risk, although providers can decide to adhere to the AI Act in full, and sign up to voluntary codes of conduct;
- research, development and prototyping work done prior to a model being released onto the market; and
- AI models and tools used solely for military, defence or national security.¹⁹²

We will examine the use of AI in a military, defence, and national security context in Chapter 8 of this Report.

117. Speaking prior to the finalisation of the AI Act, the Secretary of State for Science, Innovation and Technology said that she had heard “... deep concerns among some of its member states that it will stifle innovation”.¹⁹³ She also argued that the AI Act’s risk-based approach was “... quite a blunt tool... we are taking an approach that is a much more context based”.¹⁹⁴

118. The Computer and Communications Industry Association, a trade body, has said that the impact of the AI Act “... needs to be closely monitored to avoid overburdening innovative AI developers with disproportionate compliance costs and unnecessary red tape”.¹⁹⁵ French President Emmanuel Macron has also argued that the EU “... can decide to regulate much faster and much stronger than our major competitors. But we will regulate things that we will no longer produce or invent. This is never a good idea”.¹⁹⁶ Hugh Milward of Microsoft UK told us that the EU’s proposed approach was “... a model of how not to do it”, citing similar concerns.¹⁹⁷

119. Beyond the EU AI Act, the Commission has proposed an Artificial Intelligence Liability Directive that would create “... uniform rules for certain aspects of non-contractual civil liability for damage caused with the involvement of AI systems”.¹⁹⁸ In late 2023 the EU institutions also agreed a new Directive on Liability for Defective Products to replace the existing Product Liability Directive, which will account for the growing prevalence of AI and allow individuals to bring claims against product and in some cases product component manufacturers.¹⁹⁹

190 [European regulators discuss AI Act enforcement, fines](#), International Association of Privacy Professionals, 10 April 2024

191 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

192 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

193 [Q757](#)

194 [Q781](#)

195 [Generative AI Thriving in Competitive EU Market, New Study Finds](#), Computer and Communications Industry Association, 21 March 2024

196 [EU’s new AI Act risks hampering innovation, warns Emmanuel Macron](#), Financial Times, 11 December 2023

197 [Q143](#)

198 [Liability rules for Artificial Intelligence](#), European Commission, 28 September 2022

199 [What can you expect from the new product liability directive?](#) Covington, 14 March 2024

China

120. China ranked second in the latest Tortoise Global AI Index, behind the United States.²⁰⁰ In a submission to our inquiry Dr Steve Rolf, a research fellow at the University of Sussex, told us that China wanted to increase the size of its digital economy:

... to 10 per cent of GDP by 2025 and to this end commercial AI applications have been successfully embedded in areas like smart cities programs, education and healthcare, and autonomous vehicles.²⁰¹

121. Statistics released by the Chinese authorities showed a notable increase in imports of data processing equipment and computer chips in the first quarter of 2024,²⁰² and it has been reported that the Chinese state has offered significant subsidies to encourage the development of AI start-ups whilst maintaining close oversight of the approval of new models for release.²⁰³

122. Matt Sheehan, a fellow at the Carnegie Endowment for International Peace, has described China as being “... in the midst of rolling out some of the world’s earliest and most detailed regulations governing AI”.²⁰⁴ He has termed China’s approach to AI as the first example of its authorities “... having to do a trade-off between two Communist party goals of sustaining AI leadership and controlling information”.²⁰⁵

123. From a geopolitical perspective, Dr Rolf’s submission to our inquiry described China’s overall regulatory approach as “... substantially driven by rivalry with the United States for technological supremacy in digital technology and AI”.²⁰⁶ Shortly after the publication of our interim Report, the Government confirmed that China had been invited to the AI Safety Summit at Bletchley Park, with Foreign Secretary Rt. Hon. James Cleverly MP describing a strategy “... to engage [with China] where it is in the U.K.’s national interest”.²⁰⁷

124. China was among the signatories to the Bletchley Declaration announced at the 2023 AI Safety Summit,²⁰⁸ and has subsequently engaged with the United States on AI-related topics at researcher, business and diplomatic levels, according to media reports.²⁰⁹ We will return to the International Coordination Challenge in Chapter 8 of this Report.

200 [The Global AI Index](#), Tortoise, accessed 23 May 2024

201 [Dr Steve Rolf \(GAI0104\)](#)

202 [China’s trade returns to growth on back of AI equipment imports](#), Financial Times, 9 May 2024

203 [China offers AI computing ‘vouchers’ to its underpowered start-ups](#), Financial Times, 4 March 2024

204 [China’s AI Regulations and How They Get Made](#), Carnegie Endowment for International Peace, 10 July 2023, p. 3

205 [China to lay down AI rules with emphasis on content control](#), Financial Times, 11 July 2023

206 [Dr Steve Rolf \(GAI0104\)](#)

207 [UK foreign secretary confirms China invite to AI summit](#), Politico, 19 September 2023

208 [The Bletchley Declaration by Countries Attending the AI Safety Summit](#), 1–2 November 2023, GOV.UK, 1 November 2023

209 [US companies and Chinese experts engaged in secret diplomacy on AI safety](#), Financial Times, 11 January 2024; [White House science chief signals US-China co-operation on AI safety](#), Financial Times, 25 January 2024; [US and China to hold first talks to reduce risk of AI ‘miscalculation’](#), Financial Times, 13 May 2024

International standards

125. Both the UK and EU have emphasised the importance of technical industry standards. The European Commission has described the AI Act as a framework that “... leaves the concrete technical solutions and operationalisation primarily to industry-driven standards”.²¹⁰

126. Similarly, in its response to the AI White Paper consultation the Government said that it would continue to support UK participation in standards fora “... to both leverage the benefits of global technical standards here in the UK and deliver global digital technical standards shaped by democratic values”.²¹¹

127. In a submission to our inquiry, the British Standards Institution (BSI), which represents the UK view on European and international technical standards organisations, said that “... standards and accreditation offer a business and consumer friendly alternative to regulation and enable interoperability in complex supply-chains”, by “... underpinning high-level regulatory objectives with technical or framework specificities that can be adopted by businesses”.²¹²

128. The BSI said that the UK should remain an active participant in international standards fora, “... to learn from the approach of others, ensure alignment where possible, and to influence others in adopting a use-case -specific approach to risk based AI regulation”.²¹³ An AI Standards Hub has been established by the BSI, the Alan Turing Institute and National Physical Laboratory; with support from DSIT “... to support stakeholders to understand and engage with AI standardisation and strengthen AI governance practices domestically and internationally”.²¹⁴

129. In our interim Report we highlighted moves by both the United States and European Union to develop their own approaches to AI governance. The subsequent White House Executive Order and the EU AI Act are clear attempts to secure competitive regulatory advantage.

130. It is true that the size of both the United States and European Union markets may mean that ‘the Washington effect’ and ‘Brussels effect’—referring to the de facto standardising of global regulatory approaches, potentially to the detriment of the UK’s distinct approach—will apply to AI governance. Nevertheless, the distinctiveness of the UK’s approach and the success of the AI Safety Summit have underlined the significance of its current and future role.

131. Both the US and EU approaches to AI governance have their downsides. The scope of the former only imposes a requirement on Federal bodies and relies on voluntary commitments from leading developers. The latter has been criticised for its top-down, prescriptive approach and the potential for uneven implementation across different member states.

210 [Artificial intelligence: questions and answers](#), European Commission, 12 December 2023

211 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 52

212 British Standards Institution ([GAI0028](#))

213 British Standards Institution ([GAI0028](#))

214 [Use of artificial intelligence in Government](#), National Audit Office, HC 612, p. 31; [About the AI Standards Hub](#), AI Standards Hub, accessed 23 May 2024

132. *The UK is entitled to pursue an approach that considers developments in other jurisdictions but does not unthinkingly replicate them. However, where there are lessons to be learned from other jurisdictions, the next Government should be willing to apply them.*

133. *The UK has a long history of encouraging technological innovation by offering a stable, expert regulatory environment coupled with clear industry standards. The current Government is therefore right to have encouraged the growth of a strong AI sector in the UK, engaged with leading developers through the AI Safety Institute and future Summits, and participated in international standards fora. This international agenda should be continued by the next Government, and coupled with the swift establishment of a domestic framework that sufficiently addresses the Twelve Challenges of AI Governance highlighted in our interim Report.*

8 Twelve Challenges of AI Governance revisited

134. In our interim Report, published in August 2023, we identified a sense in many jurisdictions, including the UK, “... that the pace of development of AI requires an urgent response from policymakers if the public interest is not to be outstripped by the pace of deployment”.²¹⁵ We also found that the process of determining a coherent policy response to the increasing prevalence of AI was being complicated by “... the reality that the optimal responses to all of the challenges AI gives rise to are not always—at this stage—obvious”.²¹⁶

135. Our interim Report provided an initial contribution to these important discussions. It identified Twelve Challenges that AI governance frameworks must meet and called on the Government and regulators to address them through the UK’s approach.²¹⁷

136. Although progress has been made in the UK and other jurisdictions, we believe that the Twelve Challenges identified in our interim Report still apply. In this Chapter we suggest potential solutions to each of them. These should not be viewed as fully-formed policy responses, but as representing this Committee’s ‘starter for ten’ in a complex, rapidly developing area.

1: The Bias Challenge

Developers and deployers of AI models and tools must not merely acknowledge the presence of inherent bias in datasets, they must take steps to mitigate its effects

137. Our interim Report highlighted how developers and researchers relied on data to test, train, operate and refine AI models and tools,²¹⁸ and that these datasets contained inherent bias.²¹⁹

138. The Government has acknowledged that AI can “... entrench bias and discrimination” and said that it “... is working closely with the Equality and Human Rights Commission and ICO [Information Commissioner’s Office] to develop new solutions to address bias and discrimination in AI systems”.²²⁰

139. Other public bodies have also taken steps to address the Bias Challenge. The Office of the Police Chief Scientific Adviser has produced a Covenant for Using AI in Policing,²²¹ whilst the Metropolitan Police has commissioned independent testing and analysis of the performance its facial recognition tool, procured from NEC, by the National Physical

215 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 42

216 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 42

217 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, Chapter 4

218 Creative Commons ([GAI0015](#)), Institution of Engineering and Technology ([GAI0021](#))

219 [Q64](#)

220 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 20

221 [Covenant for Using Artificial Intelligence in Policing](#), National Police Chiefs Council, 28 September 2023

Laboratory.²²² In the field of health, the Medicines and Healthcare products Regulatory Agency has said that it will require approval applications for new medical devices, many of which are AI-assisted, to detail how they will address bias.²²³

140. *AI can entrench and accelerate existing biases. The current Government, future administrations and sectoral regulators should require deployers of AI models and tools to submit them to robust, independent testing and performance analysis prior to deployment.*

141. *Model developers and deployers should be required to summarise what steps they have taken to account for bias in datasets used to train models, and to statistically report on the levels of bias present in outputs produced using AI tools. This data should be routinely disclosed in a similar way to company pay gap reporting.*

2: The Privacy Challenge

Privacy and data protection frameworks must account for the increasing capability and prevalence of AI models and tools, and ensure the right balance is struck

142. Our interim Report highlighted the need to balance the protection of privacy and the potential benefits to be gained from the deployment of AI, particularly in sectors such as law enforcement.²²⁴

143. Information Commissioner John Edwards told us that the Information Commissioner's Office (ICO), one of the UK's principal privacy regulators, had paid close attention to the implications of AI's increasing prevalence for some time and had sought "... to ensure that all parts of the supply chain in AI—whether they are developing models, training models or deploying retail applications of them" were aware of their obligations under existing data protection regulations.²²⁵

144. In a paper that set out its strategic approach to AI, the ICO said that many of the risks associated with the deployment of AI "... derive from how data—and specifically personal data—is used in the development and deployment of AI systems".²²⁶ It said that by enforcing data protection law, it would ensure that "organisations who are accountable for the processing of personal data are expected to identify the risks, mitigate them and be able to demonstrate how they achieve this".²²⁷ In sensitive areas such as facial recognition technology, the ICO has said that "... deployments must be proportionate and strike the correct balance between privacy intrusion and the purpose they are seeking to achieve".²²⁸

145. **Regulators and deployers should ensure that the right balance is maintained between the protection of privacy and pursuing the potential benefits of AI. Determining this balance will depend on the context in which the technology is being deployed, with reference to the relevant laws and regulations.**

222 [Facial recognition technology in law enforcement equitability study: final report](#), National Physical Laboratory, 5 April 2023

223 [New action to tackle ethnic and other biases in medical devices](#), GOV.UK, 12 March 2024

224 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 49

225 [Q602](#)

226 [Regulating AI: the ICO's Strategic Approach](#), Information Commissioner's Office, 30 April 2024, p. 4

227 [Regulating AI: the ICO's Strategic Approach](#), Information Commissioner's Office, 30 April 2024, p. 5

228 [Regulating AI: the ICO's Strategic Approach](#), Information Commissioner's Office, 30 April 2024, p. 7

146. *Sectoral regulators should publish detailed guidance to help deployers of AI strike the balance between the protection of privacy and securing the technology’s intended benefits. In instances where regulators determine that this balance has not been met, or where the relevant laws or regulatory requirements have not been met, it should impose sanctions or prohibit the use of AI models or tools.*

3: The Misrepresentation Challenge

Those who use AI to misrepresent others, or allow such misrepresentation to take place unchallenged, must be held accountable

147. Our interim Report noted how new AI-assisted tools had significantly expanded “opportunities for malign actors to ‘pass off’ content as being associated with particular individuals or organisations when it is in fact confected”.²²⁹ Since then, the extent to which the Misrepresentation Challenge is present across society and the economy has been further underlined.

148. The increasing prevalence of AI-assisted tools capable of producing pornographic ‘deepfake’ images and videos targeted at women and girls has been highlighted by Glamour magazine.²³⁰ Committee members participated in an event in Parliament that discussed the findings of the Glamour Consent Survey undertaken together with Refuge, a charity that provides specialist support for women and children experiencing domestic violence,²³¹ and how the powers given to Ofcom, the online safety regulator, under the Online Safety Act 2023 should be implemented in a way that addresses the increasing threat posed by online deepfakes.²³²

149. The Government subsequently brought forward an amendment to the Criminal Justice Bill before Parliament, which would criminalise the creation of sexually explicit deepfake images without consent, or the installation of equipment to enable someone to do so.²³³ The amendment was added to the Bill on 15 May,²³⁴ but as our Report was finalised it was unclear whether its remaining stages would be completed prior to the dissolution of Parliament.

150. **We welcome the Government amendment to the Criminal Justice Bill as a necessary step towards ensuring the UK’s legal framework reflects the current state of technological development and protects citizens, primarily women and girls, from the consequences of AI-assisted misrepresentation, including deepfake pornography. Should the Bill’s remaining stages fail to be completed prior to the dissolution of Parliament, the next Government must introduce similar provisions as soon as is practicable after the General Election.**

151. The Misrepresentation Challenge has also become increasingly visible in our politics as the General Election expected this year approaches.²³⁵ Deepfake audio and video clips

229 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 54

230 [It’s not just Taylor Swift; all women are at risk from the rise of deepfakes](#), Glamour, 31 January 2024

231 [We asked thousands of GLAMOUR readers about sexual consent, from sexual assault to deepfaking. Here’s what they said...](#), Glamour, 28 February 2024

232 [How the Online Safety Act will help to protect women and girls](#), Ofcom, 29 November 2023

233 [Government cracks down on ‘deepfake’ creation](#), GOV.UK, 19 April 2024

234 HC Deb, 15 May 2024, [col 374](#) (Commons Chamber)

235 [Rishi Sunak suggests general election in second half of year](#), BBC News, 4 January 2024

that misrepresented the Leader of the Opposition, Rt. Hon. Sir Keir Starmer MP²³⁶ and the Mayor of London, Sadiq Khan²³⁷ were widely viewed and circulated on online platforms. The National Cyber Security Centre, a part of GCHQ, said in its 2023 annual review that:

... rather than presenting entirely new risks, it is AI's ability to enable existing techniques which poses the biggest threat. For example: large language models will almost certainly be used to generate fabricated content, AI-created hyperrealistic bots will make the spread of disinformation easier and the manipulation of media for use in deepfake campaigns will likely become more advanced.²³⁸

152. The Government has established a Defending Democracy Taskforce intended "... to reduce the threat of foreign interference in our democracy by bringing together a wide range of expertise across government, the intelligence community and industry".²³⁹ It has also cited provisions in existing legislation, such as the Elections Act 2022, National Security Act 2023 and Online Safety Act 2023 as capable of helping to address the Misrepresentation challenge.²⁴⁰

153. Some online platforms and technology companies have also accepted their role in addressing AI-generated content that aims to interfere in the democratic process. At the February 2024 Munich Security Conference, a group of companies including Google, Meta, Microsoft, OpenAI, TikTok and X, formerly Twitter, announced "... a set of commitments to deploy technology countering harmful AI-generated content meant to deceive voters".²⁴¹

154. *The Government and regulatory authorities, informed by the work of the Defending Democracy Taskforce, should safeguard the integrity of the upcoming General Election campaign in their approach to the online platforms that host deepfake content which seeks to exert a malign influence on the democratic process. If these platforms are found to have been slow to remove such content, or to have facilitated its spread, regulators must take stringent enforcement action—including holding senior leadership personally liable and imposing financial sanctions.*

155. *A cross-Government public awareness campaign should be launched to inform the public about the growing prevalence of AI-assisted misrepresentation, the potential consequences, what the Government is doing to address the Challenge, and what steps individuals can take to protect themselves online.*

4: The Access to Data Challenge

Access to data, and the responsible management of it, are prerequisites for a healthy, competitive and innovative AI industry and research ecosystem

236 [Deepfake video shows Keir Starmer promoting an investment scheme](#), Full Fact, 16 November 2023

237 [No evidence clip of Sadiq Khan supposedly calling for 'Remembrance weekend' to be postponed is genuine](#), Full Fact, 10 November 2023

238 [Annual Review 2023: Making the UK the safest place to live and work online](#), National Cyber Security Centre, 14 November 2023, p. 40

239 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, pp. 22–23; [JCNSS launches inquiry on Defending Democracy with UK election expected this year](#), 1 February 2024

240 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, pp. 22–23

241 [Tech Accord to Combat Deceptive Use of AI in 2024 Elections](#), Munich Security Conference, 16 February 2024

156. Our interim Report highlighted the extent to which AI developers and researchers alike rely on access to high-quality data, and the potential competition concerns that increased market consolidation could pose.²⁴² Since then, the Competition and Markets Authority (CMA) has opened an investigation into the relationship between Microsoft and OpenAI, specifically whether it “... has resulted in a relevant merger situation and, if so, the impact that the merger could have on competition in the UK”.²⁴³

157. Sarah Cardell, Chief Executive of the CMA, has observed that leading developers hold “... strong positions in one or more critical inputs for upstream model development, while also controlling key access points or routes to market for downstream deployment”, a situation that has raised concerns “... that they could leverage power up and down the value chain” to the detriment of free and open competition.²⁴⁴

158. Data is chief among these critical inputs, due to the volume required to train current AI models. Whilst the banking duty of confidentiality is well-established in the UK,²⁴⁵ Nikhi Rathi, Chief Executive of the Financial Conduct Authority, has highlighted how “safe data sharing can benefit firms, markets and consumers”.²⁴⁶ Air Street Capital, a UK-based venture capital firm that invests in AI-first technology and life science companies, has said that the UK “could consider creating a national data bank... [using] data from the BBC, government departments, our universities, and other sources”, which could then be made available to developers.²⁴⁷

159. At the so-called ‘frontier’ of AI a small group of leading developers are responsible for and accruing significant benefits from the development of advanced models and tools—thanks in part to their ability to access the necessary training data. This potential dominance is arguably to the detriment of free and open competition.

160. As the regulator responsible for promoting competitive markets and tackling anti-competitive behaviour, the CMA should identify abuses of market power and use its powers to stop them. This could take the form of levying fines or requiring the restructuring of proposed mergers.

161. AI models and tools rely on access to high-quality input data. The phrase ‘garbage in, garbage out’ is not new, but it is particularly applicable to AI. The potential for human error and bias notwithstanding, deployers should not solely rely on outputs produced with AI tools to determine their decision-making, particularly in areas that could affect the rights and standing of the individuals or entities concerned, such as insurance decisions or recruitment. These algorithmic decisions should always be reviewed and verified by trained humans, and those affected should have the right to challenge these decisions—a process that should also be human-centred.

242 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 57

243 [CMA seeks views on Microsoft’s partnership with OpenAI](#), Competition and Markets Authority, 8 December 2023

244 [Opening remarks at the American Bar Association \(ABA\) Chair’s Showcase on AI Foundation Models](#), GOV.UK, 11 April 2024

245 [ICO statement on banks sharing and gathering personal information](#), Information Commissioner’s Office, 26 July 2023

246 [Navigating the UK’s Digital Regulation Landscape: Where are we headed?](#) Financial Conduct Authority, 22 April 2024

247 [The UK LLM opportunity: Air Street at the House of Lords](#), Air Street Press, 28 September 2023

162. *The Government and future administrations should support the emergence of more AI startups in the UK by ensuring they can access the high-quality datasets they need to innovate. This could involve facilitating access to anonymised public data from data.gov.uk, the NHS and BBC via a National Data Bank, subject to appropriate safeguards.*

5: The Access to Compute Challenge

Democratising and widening access to compute is a prerequisite for a healthy, competitive and innovative AI industry and research ecosystem

163. As one analysis described, “... data is the raw material that is processed by compute; put differently, compute is the ‘engine’ fuelled by large amounts of data”.²⁴⁸ Access to both has become essential to developing and deploying at scale many of the AI tools available today.²⁴⁹

164. The Government has identified access to compute as key to the further development of AI-related research and industry in the UK, and has announced the establishment of an AI Research Resource and a new cluster of supercomputers.²⁵⁰ The 2024 Spring Budget said that the Government would set out “... how access to the UK’s cutting edge public compute facilities will be managed, so that both researchers and innovative companies are able to secure the computing power they need...”.²⁵¹ The Advanced Research and Invention Agency has also launched a programme aimed at reducing the cost of AI hardware, Scaling Compute.²⁵²

165. **We welcome the Government’s moves to establish a dedicated AI Research Resource and a cluster of supercomputers but are concerned that it has yet to set out further details of how researchers and startups will be able to access the compute they need to maximise the potential benefits of AI across society and the economy.**

166. *The Government, or its successor administration, should publish an action plan and proposed deliverables for both the AI Research Resource and its cluster of supercomputers, and further details of the terms under which researchers and innovative startups will be able to access them. It should also undertake a feasibility study into the establishment of a National Compute Cluster that could be made available to researchers and startups.*

6: The Black Box Challenge

We should accept that the workings of some AI models are and will remain unexplainable and focus instead on interrogating and verifying their outputs

248 [Computing Power and the Governance of Artificial Intelligence](#), Girish Sastry, Lennart Heim, Haydn Belfield, Markus Anderljung, Miles Brundage, Julian Hazell, Cullen O’Keefe, Gillian K. Hadfield, Richard Ngo, Konstantin Pilz, George Gor, Emma Bluemke, Sarah Shoker, Janet Egan, Robert F. Trager, Shahar Avin, Adrian Weller, Yoshua Bengio, Diane Coyle, 14 February 2024, p. 7

249 [Computing Power and the Governance of Artificial Intelligence](#), Girish Sastry, Lennart Heim, Haydn Belfield, Markus Anderljung, Miles Brundage, Julian Hazell, Cullen O’Keefe, Gillian K. Hadfield, Richard Ngo, Konstantin Pilz, George Gor, Emma Bluemke, Sarah Shoker, Janet Egan, Robert F. Trager, Shahar Avin, Adrian Weller, Yoshua Bengio, Diane Coyle, 14 February 2024, p. 10

250 [Technology Secretary announces investment boost making British AI supercomputing 30 times more powerful](#), GOV.UK, 1 November 2023

251 [Spring Budget 2024](#), HC 560, HM Treasury, 6 March 2024, p. 61

252 [Scaling Compute](#), Advanced Research and Invention Agency, accessed 23 May 2024

167. Our interim Report described how new AI models and tools “... have increasingly become ‘black boxes’, that is, their decision-making processes are not explainable”.²⁵³ “Appropriate transparency and explainability” was one of the five high-level principles set out in the March 2023 AI White Paper.²⁵⁴

168. The emergence of large language models (LLMs) in particular has encapsulated the Black Box Challenge. A paper prepared by an expert group to inform discussions at of the AI Seoul Summit in May 2024 described how even “... researchers currently cannot generate human-understandable accounts of how general-purpose AI models and systems arrive at outputs and decisions”.²⁵⁵

169. In a Report examining LLMs, the House of Lords Communications and Digital Committee described them as “... very complex and poorly understood; [they] operate blackbox decisionmaking; datasets are so large that meaningful transparency is difficult ...”.²⁵⁶

170. The Black Box Challenge is one of the most paradigm-shifting consequences of AI, as it upends our well-established reliance on explainability and understanding. Given the complexity of currently available and in all likelihood future models, the starting point should be an acknowledgement how little we can understand about how many AI models produce their outputs, an acceptance that new ways of thinking will be required, and a regulatory approach that accounts for the impossibility of total explainability.

171. The regulators charged with implementing the Government’s high-level AI governance principles should, in their approach to these models and tools, prioritise testing and verifying their outputs, as well seeking to establish—whilst accepting the difficulty of doing so with absolute certainty—how they arrived at them.

7: The Open-Source Challenge

The question should not be ‘open’ or ‘closed’, but rather whether there is a sufficiently diverse and competitive market to support the growing demand for AI models and tools

172. Our interim Report found differing views as to whether the code, training data and weights of AI models should be freely available.²⁵⁷ We referred to this as the Open-Source Challenge.

173. Since the publication of our interim Report, these debates have intensified. Leading developers such as Google and OpenAI have made their most advanced AI models

253 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 61

254 [A pro-innovation approach to AI regulation](#), CP 815, Department for Science, Innovation and Technology, 29 March 2023, p. 6

255 [International Scientific Report on the Safety of Advanced AI: Interim Report](#), Department of Science, Innovation and Technology, 17 May 2024, p. 83

256 House of Lords Communications and Digital Committee, First Report of Session 2023–24, [Large Language Models and Generative AI](#), HL Paper 54, para 159

257 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 65–67

proprietary,²⁵⁸ whilst Meta has differentiated itself by making its Llama 2 and Llama 3 models more openly available—although, as TechCrunch has noted, in a move designed to safeguard against competitors Meta does not permit other developers to use Llama to train generative AI models, whilst app developers with over 700 million monthly users are required to seek a commercial licence, which Meta could refuse.²⁵⁹

174. In its Report examining LLMs, the House of Lords Communications and Digital Committee said that “the UK has particular strengths in mid-tier businesses and will benefit most from a combination of open and closed source technologies”.²⁶⁰ The importance of having a range of ‘open’ and ‘closed’ models available has also been underlined by the Competition and Markets Authority.²⁶¹

175. The open-source approach has underpinned many technological breakthroughs, including the Internet and AI. Whilst some providers of products and services, such as AI models and their applications, will want to keep elements of their offerings proprietary, a healthy AI marketplace should be sufficiently diverse to support both ‘open’ and ‘closed’ options. The volume of investment flowing into AI developers of all types of models, rather than one or the other, is evidence of this market diversity.

176. *When procuring AI models for deployment in the public sector the Government and public bodies should utilise those best suited to the task.*

177. The Secretary of State for Science, Innovation and Technology told us that the debate associated with the Open-Source Challenge should be more nuanced:

... our concerns should be around the capability. Sometimes, depending on the capability, you will be less concerned if it is open source. If the capability presents more risk, you will be more concerned.²⁶²

178. These risks include those detailed in a submission to our Inquiry by the Internet Watch Foundation (IWF), which highlighted the use of AI tools—mostly but not exclusively open-source—to generate child sexual abuse imagery. The IWF recommended “... greater regulatory oversight of open-source models and the data sets they are built on before they are released”, and the insertion of safeguards by developers to prevent such content being generated with their proprietary models.²⁶³

179. The Government has said that “pre-deployment testing could inform the deployment options available for a model and change the risk prevention steps required of organisations prior to the model’s release”. It has also committed to engaging closely with the open-source community and experts on the question of open release.²⁶⁴

258 [OpenAI co-founder on company’s past approach to openly sharing research: ‘We were wrong’](#), The Verge, 15 March 2023; [Google Gemma: because Google doesn’t want to give away Gemini yet](#), The Verge, 21 February 2024

259 [Meta releases Llama 3, claims it’s among the best open models available](#), TechCrunch, 18 April 2024

260 House of Lords Communications and Digital Committee, First Report of Session 2023–24, [Large Language Models and Generative AI](#), HL Paper 54, para 40

261 [AI Foundation Models update paper](#), Competition and Markets Authority, 11 April 2024, p. 23

262 [Q806](#)

263 Internet Watch Foundation ([GAI0130](#))

264 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, pp. 33–34

180. *The Government should in its response to this Report tell us how it will ensure law enforcement and regulators are adequately resourced to respond to the growing use of AI models and tools to generate and disseminate harmful and illegal content.*

8: The Intellectual Property and Copyright Challenge

The Government should broker a fair, sustainable solution based around a licensing framework governing the use of copyrighted material to train AI models

181. Our interim Report detailed concerns about “the ‘scraping’ of copyrighted content from online sources without permission” in order to train AI models,²⁶⁵ and representatives from the creative industries told us that they hoped to reach a mutually beneficial solution with the AI sector, potentially in the form of a licensing framework for the use of copyrighted content to train models and tools.²⁶⁶

182. In the summer of 2023 the Intellectual Property Office (IPO), an executive agency of the Government, convened a working group comprised of representatives from the technology, creative and research sectors, with a view to agreeing a voluntary code of practice on copyright and AI.²⁶⁷

183. In subsequent months the number of relevant legal proceedings in various jurisdictions has continued to increase, with the ongoing case filed by the New York Times against OpenAI and Microsoft over their alleged use of copyrighted work among the most high-profile examples.²⁶⁸

184. In its response to the AI White Paper consultation, the Government confirmed that the working group convened by the IPO had been unable to agree a code of practice, and that Ministers from DSIT and the Department for Culture, Media and Sport would bring forward proposals “... to ensure the workability and effectiveness of an approach that allows the AI and creative sectors to grow together in partnership”.²⁶⁹ It has subsequently said that it “... will focus on greater transparency from AI developers and ensure that AI outputs are properly attributed”, in co-operation with international counterparts.²⁷⁰

185. The growing volume of litigation relating to alleged use of works protected by copyright to train AI models and tools, and the value of high-quality data needed to train future models, has underlined the need for a sustainable framework that acknowledges the inevitable trade-offs and establishes clear, enforceable rules of the road. The status quo allows developers to potentially benefit from the unlimited, free use of copyrighted material, whilst negotiations are stalled.

186. The current Government, or its successor administration, should ensure that discussions regarding the use of copyrighted works to train and run AI models are

265 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 68

266 [Q350](#)

267 [The government’s code of practice on copyright and AI](#), GOV.UK, 29 June 2023

268 [The Times Sues OpenAI and Microsoft Over A.I. Use of Copyrighted Work](#), The New York Times, 27 December 2023

269 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 19

270 Department for Culture, Media and Sport, [Council for Science and Technology Report: Harnessing Research and Development \(R&D\) in the UK Creative Industries](#), April 2024, p. 4

concluded and an implementable approach agreed. It seems inevitable that this will involve the agreement of a financial settlement for past infringements by AI developers, the negotiation of a licensing framework to govern future uses, and in all likelihood the establishment of a new authority to operationalise the agreement. If this cannot be achieved through a voluntary approach, it should be enforced by the Government, or its successor administration, in co-operation with its international partners.

9: The Liability Challenge

Determining liability for AI-related harms is not just a matter for the courts—Government and regulators can play a role too

187. Our interim Report discussed the “increasingly complex and international supply chains for AI models and tools”, and the Challenge this created in terms of the distribution of liability for harms.²⁷¹ In its response to the AI White Paper consultation, the Government identified “... how to allocate liability across the supply chain” as one of the key questions that policymakers would have to answer through their regulatory approaches to AI.²⁷²

188. The Government has acknowledged that many respondents to its AI White Paper consultation “... endorsed further government intervention to ensure the fair and effective allocation of liability”.²⁷³ It has said that it will seek expert input on whether updates to civil or criminal liability frameworks are required to account for the continued emergence of advanced AI models and tools.²⁷⁴ This is expected to inform the decision on whether to introduce AI-specific legislation discussed in Chapter 3.

189. Nobody who uses AI to inflict harm should be exempted from the consequences, whether they are a developer, deployer, or intermediary. The next Government together with sectoral regulators should publish guidance on where liability for harmful uses of AI falls under existing law. This should be a cross-Government undertaking. Sectoral regulators should ensure that guidance on liability for AI-related harms is made available to developers and deployers as and when it is required. Future administrations and regulators should also, where appropriate, establish liability via statute rather than simply relying on jurisprudence.

10: The Employment Challenge

Education is the primary tool for policymakers to respond to the growing prevalence of AI, and to ensure workers can ask the right questions of the technology

190. Our interim Report detailed different perspectives on the impact of AI on employment and found that whatever the outcome, planning ahead should be the key task for policymakers.²⁷⁵

271 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 72–74

272 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, pp. 25–26

273 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 57

274 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 34

275 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 75–77

191. Economists Daron Acemoglu and Simon Johnson have argued that policymakers “... must recognise that there is no singular, inevitable path of development for new technology”. The key question, in their view, should be “... what policies would put AI development on the right path, with greater focus on enhancing what all workers can do?”.²⁷⁶

192. The Government has acknowledged the importance of preparing UK workers for an AI-enabled economy, from both a skills and employment rights perspective. It has argued that whilst the impact of AI will be felt differently in different sectors, “... we can be confident that we will need new AI-related skills through national qualifications and training provision”.²⁷⁷

193. AI is already changing the nature of work, and as the technology evolves this process is likely to accelerate, placing some jobs at risk. At the same time, there are productivity benefits to be won, provided people are equipped with the skills to fruitfully utilise AI. This is a process that should begin in the classroom, and through greater prioritisation of initiatives such as the Lifetime Skills Guarantee and digital Skills Bootcamps.

194. The current Government, or its successor, should commission a review into the possible future skills and employment consequences of AI, along the lines of the 2017 Taylor Review of modern working practices which examined the landscape, suggested ideas for debate and has resulted in legislative change. It should also in its response to this Report tell us how it will ensure workers whose jobs are at risk of automation will be able to retrain and acquire the skills necessary to change careers.

11: The International Coordination Challenge

A global governance regime for AI may not be realistic nor desirable, even if there are economic and security benefits to be won from international co-operation

195. The global nature of AI governance debates were highlighted in our interim Report,²⁷⁸ and have since been underlined by the proliferation of international-level initiatives to establish a consensus around governance frameworks for the development and deployment of the technology.

196. Notable among these was the inaugural AI Safety Summit organised at Bletchley Park and discussed in Chapter 6 of this Report. The UK has also participated in ongoing initiatives by the Council of Europe, G7, G20, Organisation for Economic Co-operation and Development and United Nations; and signed a number of bilateral partnerships involving joint work on AI and AI governance.²⁷⁹

276 [Daron Acemoglu, Simon Johnson: Rebalancing AI](#), International Monetary Fund, 30 November 2023

277 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, p. 18

278 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 78–81

279 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, pp. 37–39; [G7 nations to harness AI and innovation to drive growth and productivity](#), GOV.UK, 15 March 2024; [UK & United States announce partnership on science of AI safety](#), GOV.UK, 2 April 2024

197. At the AI Seoul Summit in 2024, a group of jurisdictions including the UK, United States and European Union, announced that they would collaborate more closely on matters relating to AI safety, innovation and inclusivity. The Seoul Declaration recognised “... the importance of interoperability between AI governance frameworks in line with a risk-based approach to maximize the benefits and address the broad range of risks from AI”.²⁸⁰ A Ministerial communique published at the conclusion of the Summit confirmed that 27 nations had agreed to “develop shared risk thresholds for frontier AI development and deployment... as part of a wider push to develop global standards to address specific AI risks”.²⁸¹

198. The current Government has said that it sees value in pursuing “... coherence between our AI governance frameworks to ensure that businesses can operate effectively in both the UK and wider global markets”.²⁸²

199. However, since our interim Report the race between different jurisdictions to secure competitive advantage, often underpinned by geopolitical calculations, has become increasingly visible. It is notable for example that Peng Xiao, the Chief Executive of G42, a leading developer based in the United Arab Emirates, told the Financial Times in December 2023 that it would no longer use hardware suppliers from China, in order to maintain and deepen its links with United States-based partners including Microsoft and OpenAI.²⁸³

200. A subsequent \$1.5 billion investment by Microsoft in G42 was announced in April 2024, and described by the Financial Times as “... part of Washington’s efforts to achieve supremacy over Beijing in the development of artificial intelligence and other sensitive technologies”.²⁸⁴ G42 was among the developers to sign on to the voluntary commitments announced at the May 2024 AI Seoul Summit.²⁸⁵

201. In a national security context, the North Atlantic Treaty Organisation (NATO) adopted an AI Strategy in October 2021.²⁸⁶ It sets out six principles for the responsible use of AI and has been operationalised by the piloting of AI in NATO areas of operation “... as diverse as cyber defence, climate change and imagery analysis”.²⁸⁷

202. We welcome the organisation of the AI Safety Summit at Bletchley Park and commend the Government on bringing many key actors together. We look forward to subsequent Summits and hope that the consensus and momentum delivered at Bletchley Park can be maintained.

203. However, looking beyond the AI safety discussion, we do not believe that harmonisation for harmonisation’s sake should be the end goal of international AI

280 [Seoul Declaration for safe, innovative and inclusive AI by participants attending the Leaders’ Session: AI Seoul Summit, 21 May 2024](#), Department for Science, Innovation and Technology, 21 May 2024. The signatory jurisdictions were Australia, Canada, the European Union, France, Germany, Italy, Japan, the Republic of Korea, the Republic of Singapore, the United Kingdom, and the United States

281 [New commitment to deepen work on severe AI risks concludes AI Seoul Summit](#), GOV.UK, 22 May 2024

282 [A pro-innovation approach to AI regulation: Government response to consultation](#), CP 1019, Department for Science, Innovation and Technology, 6 February 2024, pp. 39

283 [UAE’s top AI group vows to phase out Chinese hardware to appease US](#), Financial Times, 7 December 2023

284 [US seeks alliance with Abu Dhabi on artificial intelligence](#), Financial Times, 20 April 2024

285 [Frontier AI Safety Commitments: AI Seoul Summit 2024](#), Department for Science, Innovation and Technology, 21 May 2024

286 [An Artificial Intelligence Strategy for NATO](#), NATO Review, 25 October 2021

287 [NATO starts work on Artificial Intelligence certification standard](#), NATO, 7 February 2023

governance discussions. A degree of distinction between different regulatory regimes is, in our view, inevitable. Such distinction may be motivated by geopolitics, but it may also simply be a case of healthy economic competition.

204. Future AI Safety Summits must focus on the establishment of international dialogue mechanisms to address current, medium- and longer-term safety risks presented by the growing use of AI; and the sharing of best practice to ensure its potential benefits are realised in all jurisdictions. This should not set us on the road to a global AI governance regime—we are unconvinced that such a prospect is either realistic or desirable.

12: The Existential Challenge

Existential AI risk may not be an immediate concern but it should not be ignored, even if policy and regulatory activity should primarily focus on the here and now

205. Our interim Report highlighted debates over the security implications of AI's increasing prevalence, and over the existential risks that it may or may not pose.²⁸⁸ These were described in the March 2023 AI White Paper by the Government as "... high impact but low probability".²⁸⁹

206. Since the publication of the AI White Paper and our interim Report, the Government has highlighted the most serious potential risks associated with the advancing capability of AI, through the establishment of the AI Safety Institute and the organisation of the AI Safety Summit, discussed in Chapter 6 of this Report. The AI Safety Institute has since said that its testing work will include examination of the potential for autonomous systems, which it has defined as those "... that are deployed to act semi-autonomously in the real world. This includes the ability for these systems to autonomously replicate, deceive humans and create more powerful AI models".²⁹⁰

207. A discussion paper written to inform discussions at the inaugural AI Safety Summit and published by the Government described 'loss of control' risks posed by advanced AI, and categorised these as:

- humans increasingly hand over control of important decisions to AIs. It becomes increasingly difficult for humans to take back control; and
- AI systems actively seek to increase their own influence and reduce human control.²⁹¹

208. A subsequent paper prepared ahead of the AI Seoul Summit in May 2024 concluded that:

288 Science, Innovation and Technology Committee, Ninth Report of Session 2022–23, [The Governance of Artificial Intelligence: interim report](#), HC 1769, para 82

289 [A pro-innovation approach to AI regulation](#), CP 815, Department for Science, Innovation and Technology, 29 March 2023, p. 50

290 [AI Safety Institute: third progress report](#), Department for Science, Innovation and Technology, 5 February 2024

291 [Capabilities and risks from frontier AI: A discussion paper on the need for further research into AI risk](#), Department for Science, Innovation and Technology, 25 October 2023, p. 26

The worst outcomes could see the emergence of risks like large-scale unemployment, general-purpose AI-enabled terrorism, or even humanity losing control over general-purpose AI systems. There is no consensus among experts about how likely these risks are and when they might occur.²⁹²

Professor Stuart Russell, a professor of computer science at the University of California, Berkeley who contributed to the paper, has spoken of the need for Governments to agree “... a treaty that compels developers to write an off-switch into future and existing software”,²⁹³ in light of findings that in some cases “... AI agents could have a tendency to ‘seek power’ by accumulating resources, interfering with oversight processes, and avoiding being deactivated, because these actions help them achieve their given goals”.²⁹⁴

209. The debate over the existential risk—or lack of it—posed by the increasing prevalence of AI has attracted significant attention. However, the Government’s initial assessment, that such existential risks are high impact but low probability, appears to be accurate. Nevertheless, given the potential consequences should risks highlighted by the AI Safety Institute and other researchers be realised, it is right for Governments to continue to engage with experts on the issue.

210. When implementing the principles set out in the AI White Paper regulatory activity should be focused on here-and-now impacts. Assessing and responding to existential risk should primarily be the responsibility of the UK’s national security apparatus, supported by the AI Safety Institute.

211. Should the acuteness of existential AI risk be judged to have increased, discussions regarding the implications and possible response should take place in international fora, such as AI Safety Summits.

292 [International Scientific Report on the Safety of Advanced AI: Interim Report](#), Department for Science, Innovation and Technology, 17 May 2024, p. 83

293 [Apocalypse a real risk unless smart tech has ‘kill switch’, warns AI godfather](#), The Times, 24 September 2023

294 [International Scientific Report on the Safety of Advanced AI: Interim Report](#), Department for Science, Innovation and Technology, 17 May 2024, p. 52

Conclusions and recommendations

Introduction

1. With a General Election approaching we have sought to make this Report futureproof and believe that our conclusions and recommendations will remain applicable to future Administrations. *It is important that the timing of the General Election does not stall necessary efforts by the Government, developers and deployers of AI to increase the level of public trust in a technology that has become a central part of our everyday lives.* (Paragraph 8)

The case for AI

2. If governed appropriately, we believe that AI can deliver on its significant promise, to complement and augment human activity. The Government has articulated the case for AI: better public services, high quality jobs and a new era of economic growth driven by advances in AI capabilities. (Paragraph 22)
3. The Government is right to emphasise the potential societal and economic benefits to be won from the strategic deployment of AI. However, as our interim Report highlighted, the challenges are as clear as the potential benefits, and these benefits cannot be realised without public trust in the technology. (Paragraph 23)
4. *The Government should certainly make the case for AI but should equally ensure that its regulatory framework addresses the Twelve Challenges of AI Governance that we have identified in our interim Report; and offer potential solutions to in this Report.* (Paragraph 24)

AI-specific legislation

5. *The next Government should stand ready to introduce new AI-specific legislation, should an approach based on regulatory activity, existing legislation and voluntary commitments by leading developers prove insufficient to address current and potential future harms associated with the technology.* (Paragraph 33)
6. *The Government should in its response to this Report provide further consideration of the criteria on which a decision to legislate will be triggered, including which model performance indicators, training requirements such as compute power or other factors will be considered.* (Paragraph 34)
7. *The next Government should commit to laying before Parliament quarterly reviews of the efficacy of its current approach to AI regulation, including a summary of technological developments related to its stated criteria for triggering a decision to legislate, and an assessment whether these criteria have been met.* (Paragraph 35)

The role of regulators

8. We welcome confirmation that the Government will undertake a regulatory gap analysis to determine whether regulators require new powers to respond properly to

the growing use of AI, as recommended in our interim Report. However, as the end of this Parliament approaches, there is no longer time to bring forward any updates to current regulatory remits and powers, should they be discovered to be necessary. This could constrain the ability of regulators to properly implement the Government's AI principles and undermine the UK's overall approach. (Paragraph 40)

9. *The next Government should conduct and publish the results its regulatory gap analysis as soon as is practicable. If the analysis identifies any legislation required to close regulatory gaps, this should be brought forward in time for it to be enacted as soon as possible after the General Election.* (Paragraph 41)
10. The general-purpose nature of AI will, in some instances, lead to regulatory overlap, and a potential blurring of responsibilities. This could create confusion on the part of consumers, developers and deployers of the technology, as well as regulators themselves. (Paragraph 45)
11. *The steering committee that the Government has said it will establish should be empowered to provide guidance and, where necessary, direction to help regulators navigate any overlapping remits, whilst respecting the independence of the UK's regulators.* (Paragraph 45)
12. *The regulatory gap analysis being undertaken by the Government should identify, in consultation with the relevant regulators and co-ordinating entities such as the Digital Regulation Cooperation Forum and the AI and Digital Regulations Service, areas where new AI models and tools will necessitate closer regulatory co-operation, given the extent to which some uses for AI, and some of the challenges these can present—such as accelerating existing biases—are covered by more than one regulator. The gap analysis should also put forward suggestions for delivering this co-ordination, including joint investigations, a streamlined process for regulatory referrals, and enhanced levels of information sharing.* (Paragraph 46)
13. The increasing prevalence and general-purpose nature of AI will create challenges for the UK's sectoral regulators, however expert they may be. The AI challenge can be summed up in a single word: capacity. Ofcom, for example, is combining implementation of a broad new suite of powers conferred on it by the Online Safety Act 2023, with formulating a comprehensive response to AI's deployment across its wider remit. Others will be required to undertake resource-intensive investigations and it is vital that they are able, and empowered, to do so. All will be required to pay greater attention to the outputs of AI tools in their sectors, whilst paying due regard to existing innovation and growth-related objectives. (Paragraph 55)
14. The announced £10 million to support regulators in responding to the growing prevalence of AI is clearly insufficient to meet the challenge, particularly when compared to the UK revenues of leading AI developers. (Paragraph 56)
15. *The next Government must announce further financial support, agreed in consultation with regulators, that is commensurate to the scale of the task. It should also consider the benefits of a one-off or recurring industry levy, that would allow regulators to supplement or replace support from the Exchequer for their AI-related activities.* (Paragraph 57)

AI in the public and private sectors

16. AI can be used to increase productivity and augment the contributions of human workers in both the public and private sectors. We welcome the establishment of i.AI and the focus on AI deployment set out in the public sector productivity programme; as well as initiatives to increase business adoption such as the AI and Digital Hub. (Paragraph 73)
17. *The next Government should drive safe adoption of AI in the public sector via i.AI, the National Science and Technology Council and designated lead departmental Ministers for AI.* (Paragraph 74)
18. *In its response to this Report, the Government should confirm the full list of public sector pilots currently being led or supported by i.AI, the criteria that determined i.AI pilot project selections, how it intends to evaluate their success and decide whether to roll them out more widely, and what other pilots are planned for the remainder of 2024.* (Paragraph 75)
19. *i.AI should undertake an assessment of the existing civil service workforce's AI capability, identify areas of the public sector that would benefit the most from the use of AI and where value for money can be delivered, set out how potential risks associated with its use should be mitigated, and publish a detailed AI public sector action plan. Progress against these should be reported to Parliament on an annual basis and through regular written or oral statements by Ministers.* (Paragraph 76)
20. *The requirement for Government departments to use the Algorithmic Transparency Recording Standard should be extended to all public bodies sponsored by Government departments, from 1 January 2025.* (Paragraph 77)

The AI Safety Institute

21. It is a credit to the commitment of those involved that the AI Safety Institute has been swiftly established, with an impressive and growing team of researchers and technical experts recruited from leading developers and academic institutions. (Paragraph 80)
22. *The next Government should continue to empower the Institute to recruit the talent it needs.* (Paragraph 80)
23. Although the Institute is not a regulator, it has undeniably played a decisive role in shaping the UK's regulatory approach to AI. We commend the work of the Institute and its researchers in facilitating and informing the ongoing international conversation about AI governance. (Paragraph 89)
24. However, we are concerned by suggestions that the Institute has been unable to access as-yet unreleased AI models to perform the pre-deployment safety testing it was set up to undertake. If true, this would undermine the delivery of the Institute's mission and its ability to increase public trust in the technology. (Paragraph 90)
25. *In its response to this Report, the Government should confirm which models the AI Safety Institute has undertaken pre-deployment safety testing on, the nature of the*

testing, a summary of the findings, whether any changes were made by the model's developers as a result, and whether any developers were asked to make changes but declined to do so. (Paragraph 91)

26. *The Government should also confirm which models the Institute has been unable to secure access to, and the reason for this. If any developers have refused access—which would represent a contravention of the reported agreement at the November 2023 Summit at Bletchley Park—the Government should name them and detail their justification for doing so. (Paragraph 92)*

The international dimension

27. In our interim Report we highlighted moves by both the United States and European Union to develop their own approaches to AI governance. The subsequent White House Executive Order and the EU AI Act are clear attempts to secure competitive regulatory advantage. (Paragraph 129)
28. It is true that the size of both the United States and European Union markets may mean that 'the Washington effect' and 'Brussels effect'—referring to the de facto standardising of global regulatory approaches, potentially to the detriment of the UK's distinct approach—will apply to AI governance. Nevertheless, the distinctiveness of the UK's approach and the success of the AI Safety Summit have underlined the significance of its current and future role. (Paragraph 130)
29. Both the US and EU approaches to AI governance have their downsides. The scope of the former only imposes a requirement on Federal bodies and relies on voluntary commitments from leading developers. The latter has been criticised for its top-down, prescriptive approach and the potential for uneven implementation across different member states. (Paragraph 131)
30. *The UK is entitled to pursue an approach that considers developments in other jurisdictions but does not unthinkingly replicate them. However, where there are lessons to be learned from other jurisdictions, the next Government should be willing to apply them. (Paragraph 132)*
31. The UK has a long history of encouraging technological innovation by offering a stable, expert regulatory environment coupled with clear industry standards. The current Government is therefore right to have encouraged the growth of a strong AI sector in the UK, engaged with leading developers through the AI Safety Institute and future Summits, and participated in international standards fora. *This international agenda should be continued by the next Government, and coupled with the swift establishment of a domestic framework that sufficiently addresses the Twelve Challenges of AI Governance highlighted in our interim Report. (Paragraph 133)*

Twelve Challenges of AI Governance revisited

32. *AI can entrench and accelerate existing biases. The current Government, future administrations and sectoral regulators should require deployers of AI models and tools to submit them to robust, independent testing and performance analysis prior to deployment. (Paragraph 140)*

33. *Model developers and deployers should be required to summarise what steps they have taken to account for bias in datasets used to train models, and to statistically report on the levels of bias present in outputs produced using AI tools. This data should be routinely disclosed in a similar way to company pay gap reporting.* (Paragraph 141)
34. Regulators and deployers should ensure that the right balance is maintained between the protection of privacy and pursuing the potential benefits of AI. Determining this balance will depend on the context in which the technology is being deployed, with reference to the relevant laws and regulations. (Paragraph 145)
35. *Sectoral regulators should publish detailed guidance to help deployers of AI strike the balance between the protection of privacy and securing the technology's intended benefits. In instances where regulators determine that this balance has not been met, or where the relevant laws or regulatory requirements have not been met, it should impose sanctions or prohibit the use of AI models or tools.* (Paragraph 146)
36. We welcome the Government amendment to the Criminal Justice Bill as a necessary step towards ensuring the UK's legal framework reflects the current state of technological development and protects citizens, primarily women and girls, from the consequences of AI-assisted misrepresentation, including deepfake pornography. (Paragraph 150)
37. *Should the Bill's remaining stages fail to be completed prior to the dissolution of Parliament, the next Government must introduce similar provisions as soon as is practicable after the General Election.* (Paragraph 150)
38. *The Government and regulatory authorities, informed by the work of the Defending Democracy Taskforce, should safeguard the integrity of the upcoming General Election campaign in its approach to the online platforms that host deepfake content which seeks to exert a malign influence on the democratic process. If these platforms are found to have been slow to remove such content, or to have facilitated its spread, regulators must take stringent enforcement action—including holding senior leadership personally liable and imposing financial sanctions.* (Paragraph 154)
39. *A cross-Government public awareness campaign should be launched to inform the public about the growing prevalence of AI-assisted misrepresentation, the potential consequences, what the Government is doing to address the Challenge, and what steps individuals can take to protect themselves online.* (Paragraph 155)
40. At the so-called 'frontier' of AI a small group of leading developers are responsible for and accruing significant benefits from the development of advanced models and tools—thanks in part to their ability to access the necessary training data. This potential dominance is arguably to the detriment of free and open competition. (Paragraph 159)
41. *As the regulator responsible for promoting competitive markets and tackling anti-competitive behaviour, the CMA should identify abuses of market power and use its powers to stop them. This could take the form of levying fines or requiring the restructuring of proposed mergers.* (Paragraph 160)

42. AI models and tools rely on access to high-quality input data. The phrase ‘garbage in, garbage out’ is not new, but it is particularly applicable to AI. (Paragraph 161)
43. *The potential for human error and bias notwithstanding, deployers should not solely rely on outputs produced with AI tools to determine their decision-making, particularly in areas that could affect the rights and standing of the individuals or entities concerned, such as insurance decisions or recruitment. These algorithmic decisions should always be reviewed and verified by trained humans, and those affected should have the right to challenge these decisions—a process that should also be human-centred.* (Paragraph 161)
44. *The Government and future administrations should support the emergence of more AI startups in the UK by ensuring they can access the high-quality datasets they need to innovate. This could involve facilitating access to anonymised public data from data.gov.uk, the NHS and BBC via a National Data Bank, subject to appropriate safeguards.* (Paragraph 162)
45. We welcome the Government’s moves to establish a dedicated AI Research Resource and a cluster of supercomputers but are concerned that it has yet to set out further details of how researchers and startups will be able to access the compute they need to maximise the potential benefits of AI across society and the economy. (Paragraph 165)
46. *The Government, or its successor administration, should publish an action plan and proposed deliverables for both the AI Research Resource and its cluster of supercomputers, and further details of the terms under which researchers and innovative startups will be able to access them. It should also undertake a feasibility study into the establishment of a National Compute Cluster that could be made available to researchers and startups.* (Paragraph 166)
47. The Black Box Challenge is one of the most paradigm-shifting consequences of AI, as it upends our well-established reliance on explainability and understanding. Given the complexity of currently available and in all likelihood future models, the starting point should be an acknowledgement how little we can understand about how many AI models produce their outputs, an acceptance that new ways of thinking will be required, and a regulatory approach that accounts for the impossibility of total explainability. (Paragraph 170)
48. *The regulators charged with implementing the Government’s high-level AI governance principles should, in their approach to these models and tools, prioritise testing and verifying their outputs, as well seeking to establish—whilst accepting the difficulty of doing so with absolute certainty—how they arrived at them.* (Paragraph 171)
49. The open-source approach has underpinned many technological breakthroughs, including the Internet and AI. Whilst some providers of products and services, such as AI models and their applications, will want to keep elements of their offerings proprietary, a healthy AI marketplace should be sufficiently diverse to support both ‘open’ and ‘closed’ options. The volume of investment flowing into AI developers of all types of models, rather than one or the other, is evidence of this market diversity. (Paragraph 175)

50. *When procuring AI models for deployment in the public sector the Government and public bodies should utilise those best suited to the task. (Paragraph 176)*
51. *The Government should in its response to this Report tell us how it will ensure law enforcement and regulators are adequately resourced to respond to the growing use of AI models and tools to generate and disseminate harmful and illegal content. (Paragraph 180)*
52. *The growing volume of litigation relating to alleged use of works protected by copyright to train AI models and tools, and the value of high-quality data needed to train future models, has underlined the need for a sustainable framework that acknowledges the inevitable trade-offs and establishes clear, enforceable rules of the road. The status quo allows developers to potentially benefit from the unlimited, free use of copyrighted material, whilst negotiations are stalled. (Paragraph 185)*
53. *The current Government, or its successor administration, should ensure that discussions regarding the use of copyrighted works to train and run AI models are concluded and an implementable approach agreed. It seems inevitable that this will involve the agreement of a financial settlement for past infringements by AI developers, the negotiation of a licensing framework to govern future uses, and in all likelihood the establishment of a new authority to operationalise the agreement. If this cannot be achieved through a voluntary approach, it should be enforced by the Government, or its successor administration, in co-operation with its international partners. (Paragraph 186)*
54. *Nobody who uses AI to inflict harm should be exempted from the consequences, whether they are a developer, deployer, or intermediary. The next Government together with sectoral regulators publish guidance on where liability for harmful uses of AI falls under existing law. This should be a cross-Government undertaking. Sectoral regulators should ensure that guidance on liability for AI-related harms is made available to developers and deployers as and when it is required. Future administrations and regulators should also, where appropriate, establish liability via statute rather than simply relying on jurisprudence. (Paragraph 189)*
55. *AI is already changing the nature of work, and as the technology evolves this process is likely to accelerate, placing some jobs at risk. At the same time, there are productivity benefits to be won, provided people are equipped with the skills to fruitfully utilise AI. This is a process that should begin in the classroom, and through greater prioritisation of initiatives such as the Lifetime Skills Guarantee and digital Skills Bootcamps. (Paragraph 193)*
56. *The current Government, or its successor, should commission a review into the possible future skills and employment consequences of AI, along the lines of the 2017 Taylor Review of modern working practices which examined the landscape, suggested ideas for debate and has resulted in legislative change. It should also in its response to this Report tell us how it will ensure workers whose jobs are at risk of automation will be able to retrain and acquire the skills necessary to change careers. (Paragraph 194)*

57. We welcome the organisation of the AI Safety Summit at Bletchley Park and commend the Government on bringing many key actors together. We look forward to subsequent Summits and hope that the consensus and momentum delivered at Bletchley Park can be maintained. (Paragraph 202)
58. However, looking beyond the AI safety discussion, we do not believe that harmonisation for harmonisation's sake should be the end goal of international AI governance discussions. A degree of distinction between different regulatory regimes is, in our view, inevitable. Such distinction may be motivated by geopolitics, but it may also simply be a case of healthy economic competition. (Paragraph 203)
59. *Future AI Safety Summits must focus on the establishment of international dialogue mechanisms to address current, medium- and longer-term safety risks presented by the growing use of AI; and the sharing of best practice to ensure its potential benefits are realised in all jurisdictions. This should not set us on the road to a global AI governance regime—we are unconvinced that such a prospect is either realistic or desirable.* (Paragraph 204)
60. The debate over the existential risk—or lack of it—posed by the increasing prevalence of AI has attracted significant attention. However, the Government's initial assessment, that such existential risks are high impact but low probability, appears to be accurate. Nevertheless, given the potential consequences should risks highlighted by the AI Safety Institute and other researchers be realised, it is right for Governments to continue to engage with experts on the issue. (Paragraph 209)
61. *When implementing the principles set out in the AI White Paper regulatory activity should be focused on here-and-now impacts. Assessing and responding to existential risk should primarily be the responsibility of the UK's national security apparatus, supported by the AI Safety Institute.* (Paragraph 210)
62. *Should the acuteness of existential AI risk be judged to have increased, discussions regarding the implications and possible response should take place in international fora, such as AI Safety Summits.* (Paragraph 211)

Formal minutes

Thursday 23 May 2024

Stephen Metcalfe, in the Chair

Chris Clarkson

Dame Tracey Crouch

James Davies

Katherine Fletcher

Draft Report (*Governance of artificial intelligence*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 211 read and agreed to.

Summary agreed to.

Resolved, That the Report be the Third Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Adjournment

The Committee adjourned.

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Wednesday 25 January 2023

Professor Michael Osborne, Professor of Machine Learning and co-founder, University of Oxford and Mind Foundry; **Michael Cohen**, DPhil candidate in Engineering Science, University of Oxford [Q1–54](#)

Mrs Katherine Holden, Head of Data Analytics, AI and Digital Identity, techUK; **Dr Manish Patel**, CEO, Jiva.ai [Q55–96](#)

Wednesday 22 February 2023

Adrian Joseph, Chief Data and AI Officer, BT Group; **Jen Gennai**, Director, Responsible Innovation, Google; **Hugh Milward**, General Manager, Corporate, External and Legal Affairs, Microsoft UK [Q97–143](#)

Professor Dame Wendy Hall, Regius Professor of Computer Science, University of Southampton; **Professor Sir Nigel Shadbolt**, Professorial Research Fellow in Computer Science and Principal, Jesus College, University of Oxford [Q144–173](#)

Wednesday 08 March 2023

Professor Andrew Hopkins, Chief Executive, Exscientia [Q174–222](#)

Professor Delmiro Fernandez-Reyes, Professor of Biomedical Computing, University College London, Adjunct Professor of Paediatrics, University of Ibadjan; **Professor Mihaela van der Schaar**, John Humphrey Plummer Professor of Machine Learning, Artificial Intelligence and Medicine, and Director, Cambridge Centre for AI in Medicine, Cambridge University [Q223–262](#)

Wednesday 29 March 2023

Professor Rose Luckin, Professor of Learner Centred Design, University College London, Director, Educate; **Daisy Christodoulou**, Director of Education, No More Marking [Q263–294](#)

Dr Matthew Glanville, Head of Assessment Principles and Practice, The International Baccalaureate; **Joel Kenyon**, Science Teacher and Community Cohesion Lead, Dormers Wells High School, Southall, London [Q295–326](#)

Wednesday 10 May 2023

Jamie Njoku-Goodwin, CEO, UK Music; **Paul Fleming**, General Secretary, Equity [Q327–373](#)

Coran Darling, Associate, Intellectual Property and Technology, DLA Piper; **Dr Hayleigh Boshier**, Senior Lecturer in Intellectual Property Law, Brunel University [Q374–411](#)

Wednesday 24 May 2023

Lindsey Chiswick, Director of Intelligence, Metropolitan Police; **Dr Tony Mansfield**, Principal Research Scientist, National Physical Laboratory [Q412–506](#)

Michael Birtwistle, Associate Director, AI and data law & policy, Ada Lovelace Institute; **Dr Marion Oswald**, Senior Research Associate for Safe and Ethical AI and Associate Professor in Law, The Alan Turing Institute and Northumbria University

[Q507–538](#)

Wednesday 25 October 2023

Dame Melanie Dawes, Chief Executive, Ofcom; **Will Hayter**, Senior Director, Digital Markets Unit, Competition and Markets Authority (CMA)

[Q539–601](#)

John Edwards, Information Commissioner, Information Commissioner’s Office; **Kate Jones**, Chief Executive, Digital Regulation Cooperation Forum; **Jessica Rusu**, Chief Data, Information and Intelligence Officer, Financial Conduct Authority

[Q602–652](#)

Wednesday 08 November 2023

Matt Clifford, Prime Minister’s representative, AI Safety Summit; **Emran Mian**, Director General, Digital Technologies and Telecoms, Department for Science, Innovation and Technology

[Q653–755](#)

Wednesday 13 December 2023

Rt Hon Michelle Donelan MP, Secretary of State, Department for Science, Innovation and Technology; **Sarah Munby**, Permanent Secretary, Department for Science, Innovation and Technology

[Q756–822](#)

Published written evidence

The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

GAI numbers are generated by the evidence processing system and so may not be complete.

- 1 ACT | The App Association ([GAI0018](#))
- 2 ADS ([GAI0027](#))
- 3 AI & Digital Healthcare Group, Centre for Regulatory Science and Innovation, Birmingham (University Hospitals Birmingham NHS Foundation Trust/University of Birmingham) ([GAI0055](#))
- 4 AI Centre ([GAI0037](#))
- 5 AI Governance Limited ([GAI0050](#))
- 6 Abrusci, Dr Elena (Lecturer , Brunel University London); and Scott, Dr Richard Mackenzie-Gray (Postdoctoral Fellow, University of Oxford) ([GAI0038](#))
- 7 Academy of Medical Sciences ([GAI0072](#))
- 8 Ada Lovelace Institute ([GAI0086](#))
- 9 Alfieri, Joseph ([GAI0062](#))
- 10 Alliance for Intellectual Property ([GAI0118](#))
- 11 Assuring Autonomy International Programme (AAIP), University of York.; McDermid, Professor John ; Calinescu, Professor Radu ; MacIntosh, Dr Ana ; Habli, Professor Ibrahim ; and Hawkins, Dr Richard ([GAI0044](#))
- 12 BCS - Chartered Institute for Information Technology ([GAI0022](#))
- 13 BILETA ([GAI0082](#))
- 14 BT Group ([GAI0091](#))
- 15 Belfield, Mr Haydn (Academic Project Manager, University of Cambridge, Leverhulme Centre for the Future of Intelligence & Centre for the Study of Existential Risk); igearthaigh, Dr Seán Ó hÉ (Acting Director and Principal Researcher, University of Cambridge, Centre for the Study of Existential Risk & Leverhulme Centre for the Future of Intelligence); Avin, Dr Shahar (Senior Research Associate, University of Cambridge, Centre for the Study of Existential Risk); ndez-Orallo, Prof José Herná (Professor, Universitat Politècnica de València); and Corsi, Giulio (Research Associate, University of Cambridge, Leverhulme Centre for the Future of Intelligence)) ([GAI0094](#))
- 16 Big Brother Watch ([GAI0088](#))
- 17 Boshier, Dr Hayley (Reader in Intellectual Property Law and Associate Dean, Brunel University) ([GAI0128](#))
- 18 British Standards Institution (BSI) ([GAI0028](#))
- 19 Burges Salmon LLP ([GAI0064](#))
- 20 CBI ([GAI0115](#))
- 21 CENTRIC ([GAI0043](#))
- 22 Carnegie UK ([GAI0041](#))
- 23 Center for AI and Digital Policy ([GAI0098](#))
- 24 Chiswick, Lindsey (Director of Intelligence, Metropolitan Police) ([GAI0121](#))

- 25 Clement-Jones, Lord (Digital Spokesperson for the Liberal Democrats, House of Lords); and Darling, Coran ([GAI0101](#))
- 26 Cohen, Michael (DPhil Candidate, University of Oxford); and Osborne, Professor Michael (Professor of Machine Learning, University of Oxford) ([GAI0046](#), [GAI0116](#))
- 27 Collins, Dr Philippa (Senior Lecturer in Law, University of Bristol); and Atkinson, Dr Joe (Lecturer in Law, University of Sheffield) ([GAI0074](#))
- 28 Committee on Standards in Public Life ([GAI0110](#))
- 29 Competition and Markets Authority ([GAI0124](#))
- 30 Compliant & Accountable Systems Research Group, Department of Computer Science & Technology, University of Cambridge; and Compliant & Accountable Systems Research Group, Department of Computer Science & Technology, University of Cambridge ([GAI0106](#))
- 31 Connected by Data ([GAI0052](#))
- 32 Copyright Alliance ([GAI0097](#))
- 33 Creative Commons ([GAI0015](#))
- 34 Crockett, Professor of Computational Intelligence Keeley (Professor of Computational Intelligence, Manchester Metropolitan University) ([GAI0020](#))
- 35 DeepMind ([GAI0100](#))
- 36 Dennis, Bobbie (Policy and Public Affairs Officer, Internet Watch Foundation (IWF)) ([GAI0130](#))
- 37 Department for Digital, Culture, Media and Sport; and Department for Business, Energy and Industrial Strategy ([GAI0107](#))
- 38 Edwards, Professor Rosalind (Professor of Sociology , University of Southampton); Gillies, Professor Val (Professor of Social Policy and Criminology , University of Westminster); Gorin, Dr. Sarah (Assistant Professor , University of Warwick); and Ducasse, Dr. Hélène Vannier (Senior Research Fellow , University of Southampton) ([GAI0035](#))
- 39 Electoral Commission ([GAI0129](#))
- 40 Employers Lawyers Association ([GAI0031](#))
- 41 Equity ([GAI0065](#))
- 42 Financial Conduct Authority ([GAI0125](#))
- 43 Fotheringham, Kit (Postgraduate Researcher, University of Bristol) ([GAI0042](#))
- 44 GSK ([GAI0067](#))
- 45 Google ([GAI0099](#))
- 46 Hopgood, Professor Adrian (Professor of Intelligent Systems, University of Portsmouth) ([GAI0030](#))
- 47 Imperial College London Artificial Intelligence Network ([GAI0014](#))
- 48 Information Commissioner's Office (ICO) ([GAI0112](#))
- 49 Institute for the Future of Work ([GAI0063](#))
- 50 Institute of Physics and Engineering in Medicine (IPEM) ([GAI0051](#))
- 51 Joshi, Ruchika (Harvard Kennedy School) ([GAI133](#))

- 52 Leslie, Professor David (Director of Ethics and Responsible Innovation Research, The Alan Turing Institute; and Professor of Ethics, Technology and Society, Queen Mary University of London) ([GAI0113](#))
- 53 Liberty ([GAI0081](#))
- 54 Library and Archives Copyright Alliance ([GAI0120](#))
- 55 Loughborough University ([GAI0070](#))
- 56 Mason, Mr Shane (Freelance consultant, n/a) ([GAI0006](#))
- 57 Microsoft ([GAI0083](#))
- 58 Milestone Systems ([GAI0132](#))
- 59 Minderoo Centre for Technology and Democracy, University of Cambridge ([GAI0032](#))
- 60 NCC Group ([GAI0040](#))
- 61 NICE; HRA; MHRA; and CQC ([GAI0076](#))
- 62 National Physical Laboratory ([GAI0053](#))
- 63 Ofcom ([GAI0126](#))
- 64 Oswald, Dr Marion ([GAI0012](#))
- 65 Oxford Internet Institute ([GAI0058](#))
- 66 Oxford Internet Institute, University of Oxford; University of Exeter; Oxford Internet Institute, University of Oxford; Oxford Internet Institute, University of Oxford; and Oxford Internet Institute, University of Oxford ([GAI0024](#))
- 67 Patelli, Dr Alina (Senior Lecturer in Computer Science, Aston University) ([GAI0095](#))
- 68 Protect Pure Maths ([GAI0117](#))
- 69 Public Law Project ([GAI0069](#))
- 70 Publishers Association ([GAI0102](#))
- 71 Pupils 2 Parliament ([GAI0096](#))
- 72 Queen Mary University London ([GAI0073](#))
- 73 RELX ([GAI0033](#))
- 74 Reed, Professor Chris (Professor of Electronic Commerce Law, Centre for Commercial Law Studies, Queen Mary University of London) ([GAI0059](#))
- 75 Richie, Dr Cristina (lecturer, TU Delft) ([GAI0001](#), [GAI0002](#))
- 76 Rolf, Dr Steve (Research Fellow, The Digital Futures at Work (Digit) Centre, University of Sussex Business School) ([GAI0104](#))
- 77 Rolls-Royce plc ([GAI0109](#))
- 78 Sage Group ([GAI0108](#))
- 79 Salesforce ([GAI0105](#))
- 80 Sanchez-Graells, Professor Albert (Professor of Economic Law, University of Bristol Law School) ([GAI0004](#))
- 81 School of Informatics, University of Edinburgh ([GAI0079](#))
- 82 Scott, Mr. Michael (Chair of Trustees, Home-Start Nottingham) ([GAI0005](#))
- 83 Sense about Science ([GAI0078](#))
- 84 TUC ([GAI0060](#))

- 85 Tang, Dr Guan H (Senior Lecturer, Centre for Commercial Law Studies, Queen Mary University of London) ([GAI0077](#))
- 86 TechWorks ([GAI0068](#))
- 87 Tessler, Leonardo (PhD in law Candidate, University of Montreal) ([GAI0092](#))
- 88 The Alliance for Intellectual Property ([GAI0103](#))
- 89 The Institution of Engineering and Technology (IET) ([GAI0021](#))
- 90 The LSE Law School, London School of Economics.; and The LSE Law School, London School of Economics. ([GAI0036](#))
- 91 The Nutrition Society ([GAI0007](#))
- 92 The Royal Academy of Engineering ([GAI0039](#))
- 93 The Royal College of Radiologists (RCR) ([GAI0087](#), [GAI0131](#))
- 94 Thorney Isle Research ([GAI0016](#))
- 95 Tripathi, Mr Karan (Research Associate , University of Sheffield); and Tzanou , Dr Maria (Senior Lecturer in Law, University of Sheffield) ([GAI0047](#))
- 96 Trustpilot ([GAI0054](#))
- 97 Trustworthy Autonomous Systems Hub; The UKRI TAS Node in Governance & Regulation; and The UKRI TAS Node in Functionality ([GAI0084](#))
- 98 UK BioIndustry Association ([GAI0026](#))
- 99 UK Dementia Research Institute ([GAI0111](#))
- 100 UKRI ([GAI0114](#))
- 101 United Nations Association UK; Article 36; Women's International League for Peace and Freedom UK; and Drone Wars UK ([GAI0090](#))
- 102 University of Glasgow ([GAI0057](#))
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- 105 Wayve ([GAI0061](#))
- 106 Which? ([GAI0049](#))
- 107 Whittlestone, Dr Jess (Head of AI Policy, Centre for Long-Term Resilience); and Moulange, Richard (PhD student , MRC Biostatistics Unit, University of Cambridge) ([GAI0071](#))
- 108 Wudel, Alexandra (Political Advisor, German Parliament); Gengler, Eva (PhD Student, FAU Nürnberg); and Center for Feminist Artificial Intelligence ([GAI0013](#))
- 109 Wysa Limited ([GAI0093](#))
- 110 medConfidential ([GAI0011](#))
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List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website.

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