

Think
new things
Make
new connections

Terms of Reference

***Techno-Democracy:* how can democracies adopt AI and other emerging technologies at speed in order to strengthen both global competitiveness and core values?**

24-25 February 2022

(with departure on 26 February for in-person guests)

China's emerging model of techno-authoritarianism has attracted a great deal of attention. Do we need to define and build a model for techno-democracy in response, or is this something that will just emerge? What could techno-democracy look like and how can it be accelerated and shaped, so as to strengthen both global competitiveness and the core values of democracies?

What changes are necessary, if any, to our existing models of liberal democracy combined with market driven capitalism? What demands does this place on citizens, companies and the state and what rights must be protected at all costs? What technologies will be central in techno-democracy and how can they be developed at speed without undermining our institutions? What safeguards, norms and institutions do we need to develop in parallel to the implementation of technologies and how can this also be accomplished at speed? What does a state look like that can best marry exponential technological change with democracy?

This Ditchley conference will bring together leaders from technology, science, politics, government, ethics, civil society and business to take stock of where technology is heading and its implications for democracy in an era of geopolitical competition. The conference's immediate aim will be to create space for high level strategic thinking and decision-making. Insights and further questions from the conference will be taken forward through small-scale Ditchley programming over 2022. This will include more detailed exploration of what kinds of governance systems and government delivery capabilities will be needed to develop and deliver an effective democratic science and technology strategy.

Context

The pandemic has increased the impact of technology on citizens, companies and governments alike. Perhaps ten years of digital adoption has been crammed into the last 18 months. The most visible aspect has been reliance on video conferencing but in its wake

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there has also been a complementary move to digital document sharing, electronic signatures and the digitisation of a daily range of business processes from diary management to room booking. At home, as well as the rise of the home office, we have seen a forced adoption of online commerce and delivery services that has become an ingrained habit for many of us. The extraordinary success of multiple vaccine programmes has re-focused attention on both the possibilities of biotech and the risks, with concerns about biological safety.

The main technological focus of the conference will be determined by those who are able to participate, and we will not try to boil the ocean. But it might be helpful to set out a range of technologies, and their interrelationships, which could determine future success.

In addition to the impact of the pandemic, a number of technologies have moved forward. AI is no longer just about deep learning neural networks, with a broadening of innovation. The progress made first on language (“attention”, “Transformers”) is now moving into computer vision. There is also a resurgence of interest in combining symbolic AI with deep learning. Exceptionally large scale ‘foundational’ models for language understanding and generation such as GPT-3 and now DeepMind’s Gopher, are delivering, in some applications, close to human levels of output but at computer scale and speed. The collaboration between OpenAi and Microsoft on GPT-3 and Azure might grow into a route for deployment and adoption of AI capabilities across the economy. Such capabilities would lead to leaps in productivity and efficiency, boosting competitiveness.

But at the same time there will be disruptive effects. How long will large numbers of people be employed and paid white collar salaries across multiple sectors in order to read and summarise text, or to check contracts? If employers can make savings on lower level knowledge work, then will those savings be invested back into new means to develop the next generation of senior people paid for judgement, experience and relationships, or will the money go to profit? The current record of investment in future productivity through training and staff development by employers is not good, so will this change?

Improved computer vision and mapping of landscapes have both commercial and defence applications for the automation of vehicles, logistics and weapons systems. Innovation will pass back and forth between these sectors. How aggressively should democracies seek to introduce autonomous vehicles and what is the right balance between safety and innovation? How do we make sure that defence capabilities remain competitive with rivals’ developments?

The deployment of robotics across industry will see many roles switch from the carrying out of an action to the supervision of a process by a semi-automated machine. How can we prepare for this transition?

The combination of AI, robotics and biology adds up to computational biology. What are the next stages in the field and how has the pandemic had an impact? How will computational biology contribute towards a new era of drug discovery? How can we further catalyse progress and what safeguards are needed? (We will be holding a smaller side conference bringing together the Transatlantic computational biology community in advance of the main discussion and insights from this will be fed into the conference.)

The development of all these technologies depends to a greater or lesser extent on properly managed access to data, with appropriate cyber security, respect for privacy and protection of intellectual property rights. How can we work towards an effective framework for data in democracies? (Ditchley has launched a running programme on data in democracies, which will feed insights into the conference discussion.) What role can technology play in updating the mechanics of democracy – elections and other forms of consultation?

The increasingly automated flow of information to individuals, communities, companies and governments has arguably led, so far, to some of the biggest challenges for democracies. Alongside the benefits which should not be forgotten, we have seen the creation and/or reinforcement of echo chambers; disinformation campaigns by domestic and foreign actors; the creation of new spaces and new capabilities for sharing illegal content; and the fostering of cyber crime. How can new technologies combat these ills in order to support core democratic values of freedom tempered with respect for others? What will be the impact of VR and AR on social networks and the flow of information? And how can negative effects be mitigated?

Cyber crime itself is a growing threat to all states' effective adoption of digital technologies. How can we improve cyber and data resilience, protecting personal privacy, assets and intellectual property?

Does blockchain have a powerful role in democracies' adoption of technology, allowing citizens to organise and exchange information and assets with reduced central control? Or will the arms of the centralised state remain the essential players? How will crypto networks influence the creation of public goods (e.g. the size of various crypto project treasuries) and governance experiments?

The growing race to utilise space for connectivity and manufacture will connect with the spread of 5G and the Internet of Things. Which capabilities should we prioritise and how might they be combined to create a secure mesh of connectivity and interacting devices and capabilities?

Underpinning the deployment of digital technologies is the supply of semiconductors, batteries, LED screens and other crucial components. What needs to be done to secure resilient supply chains in an age of geopolitical competition and potential instability?

For the middle part of the conference we will split into four working groups so as to be able to go into more depth on a range of issues. Each working group will have a mixture of technologists and other stakeholders.

Group A will look at the impact of AI and digital technologies on the economy, civil society and defence and how we can accelerate our levels of innovation, development and adoption, including through funding and industrial strategy.

Group B will look at the impact of biotechnology on the economy, civil society and defence and how we can accelerate our levels of innovation, development and adoption, including through funding and industrial strategy.

Group C will look at what safeguards, norms and institutions we will need to develop at speed in parallel to accelerating use of data, AI and biotechnology.

Group D will provide a further forum for discussion across these issues for participants in North American and Asian time zones.