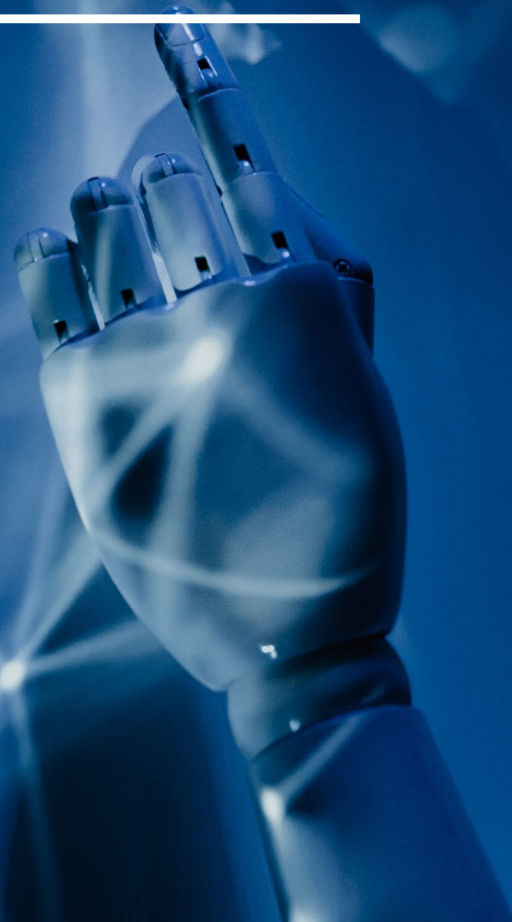


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FUJITSU

Leading the way: the role of government in emerging technology

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Leading the world: the role of government in emerging technology

Reform was delighted to host a policy roundtable exploring the role of government both as an adopter and enabler of emerging technologies. The discussion was introduced by Paul Scully, then Minister for Tech and the Digital Economy and Keith Dear, Managing Director of the Centre for Cognitive and Advanced Technologies at Fujitsu.

Across a range of critical and emerging technologies including AI, biocomputing and semiconductors, the UK is already leading the way. After the US and China, the UK's tech sector was the third to reach a \$1 trillion valuation, we have created more unicorn companies (startups worth over \$1 billion) than France and Germany combined, and have the largest life sciences sector in Europe.

Although important work is happening to capitalise on these strengths and ensure their benefits are felt across Whitehall – including by boosting digital and technological capabilities in the civil service – government has historically been slow to adapt to new trends, utilise new technologies itself and send a clear message that the UK is the very best place to invest.

Dedicated strategies for several emerging technologies, the creation of the Department for Science, Innovation and Technology, and more recently the AI Safety Institute have helped provide essential clarity and direction in this regard. To build on these, and cement the UK's position as a science and technology "superpower" by 2030, there is still more to be done.

Building trust

Participants reflected that to accelerate the uptake of emerging technologies, government

must first lay the groundwork by establishing trust and confidence in their use. Often, the public's hesitancy to see government adopt technologies like AI are based on legitimate concerns regarding, for example, data ownership, privacy, or the potential for algorithmic bias.

In response, government must be clear about how a technology will be applied, the measures in place to mitigate key risks and the specific benefits the technology is expected to bring. The latter is especially important since procurement of emerging technologies can be costly and some – including semiconductors, which the UK is investing billions in – are not yet widely understood by the public.

Participants observed that the importance of building trust is not unique to the public sector and that industry has long faced similar challenges. However, they also noted that government has sometimes taken an excessively risk-averse approach and missed out on opportunities to share examples of best practice from its own work.

For instance, AI is already being trialled in certain Jobcentre Plus sites to provide more personalised advice and improve customer service. In future, government could deploy similar sandboxes to safely test, assure and build confidence in the use of emerging technologies in frontline services.

Risk appetite

At the same time, different technologies will require a different understanding and tolerance of risk. Some of the most innovative, high-potential startups begin their growth in the UK but then relocate to the United States or elsewhere to attract long-term capital and more rapidly scale.

Participants argued that government's own appetite for risk, and how it communicates this to industry, is a crucial factor in whether startups and other businesses continue to invest in the UK or make the decision to exit.

One way in which government communicates its appetite for risk is in the use of new technologies in central government departments. Participants gave the example of ChatGPT which until guidance was published had begun to be used in quite radical ways. Now, however, government has become even more cautious than the relevant regulators would have recommended. This conservatism can be expected to have a chilling effect on others' activity.

Skills and mindsets

Making smart, carefully calibrated choices about when, and in what contexts, emerging technologies should be used relies on government having tech and digital skills which it can readily use to inform these decisions across departments. Participants noted, for example, that generative AI has potential applications within parts of government that are not regularly engaged with emerging technologies, and that without the right support we risk certain teams falling behind the curve on adoption.

The civil service has become the biggest employer of tech and digital skills in the UK, with

some 20,000 employed in the Digital, Data and Technology (DDaT) profession. To ensure expert and future-proof decisions, the key question within Whitehall therefore shifts from simply 'how can we secure the relevant skills?' to 'how can we capitalise on the presence of these skills within the system?'.

Participants suggested this will require an emphasis on mindsets as much as skillsets. We must go further to ensure specialist skills are given appropriate status and embedded in genuinely multidisciplinary teams, creating a 'connective tissue' between policy and implementation.

Just as important is government's role in supporting tech and digital skills across the wider economy. Participants pointed to skills bootcamps and the digital skills council, which brings together business, academia and government to collectively find solutions to current and future skills shortages, as two notable examples in this area.

Government as early adopter and customer

Participants noted that government's role as a purchaser, developer, and user of new technologies is a more complex one. In some cases, the greatest benefits accrue if government is a first-mover and chooses to adopt a new technology as early as possible. Similarly, failure to adopt key technologies quickly enough can be a bottleneck to higher productivity, result in worse outcomes for citizens and undermine industry and public confidence.

In other cases, there are clear benefits to waiting until a technology's viability, longevity and use cases have been firmly established in other sectors before acting.

Policy roundtable summary

The creation of ARIA – the Advanced Research and Invention Agency – earlier this year is an example of government playing a trend-setting role to take strategic risks and make critical investments that might otherwise not occur in academia or the private sector. Relatedly, participants argued that we need to take a ‘public-sector view’ of certain technologies, and determine what exactly they will help the state accomplish, since some technologies are developed by the private sector primarily for private sector use.

Arriving at this view will simultaneously protect the public from poor applications of emerging technology and ultimately make government a more intelligent customer.

Likewise for government to be an intelligent customer and maximise the value of the technologies it buys, it must take a more intentional, long-term view of how they could be used. This means being visible to industry as a potential customer, in order to shape the requirements for new technologies as the private sector develops them, as well as the specifications and safeguards that are built in.

Supply and demand

Finally, this long-term vision is key to government shaping the market for emerging technologies and the potential economic and social benefits they can deliver.

On the supply side, for example, participants suggested there has tended to be a focus on the most lucrative technologies, such as generative AI, rather than on how emerging technologies can support sectors which have historically had lower productivity gains, such as transport or construction.

On the demand side, government has a critical role to play in encouraging service providers, including local authorities and hospital trusts, to adopt technologies associated with substantial productivity gains and improved outcomes.

Participants reflected that a cross-government approach to emerging technology, as above, can lead to virtuous cycles of adoption. The more trailblazer case studies there are of the public sector using emerging technology to safely and effectively transform the work it does, the more confidence there will be in using emerging technologies for a wide range of applications, the more that innovation will occur, and so on.

Emerging technologies offer government enormous opportunities to become more efficient, resilient and future-proof; but their adoption must be based on a vision which takes an intelligent account of risk, proactively builds confidence in their use, and is rooted in an awareness of where the potential benefits of emerging technologies, for public sector use, are greatest.



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