

UK Authority AI & Bots4Good

24 November 2021

# National AI Strategy

Sana Khareghani

Head of Office for AI



# National AI Strategy

## The AI journey so far...



Oct 2017

### **Growing the AI industry in the UK**

The Independent review carried out by Prof. Dame Wendy Hall and Jérôme Pesenti reported how the AI industry can be grown in the UK.



Apr 2018

### **Groundbreaking AI Sector Deal**

In response to the recommendations of the AI Review the government and the UK's AI ecosystem agreed a near £1 billion Sector Deal to boost the UK's global position as a leader in AI.



Jan 2021

### **AI Council AI Roadmap**

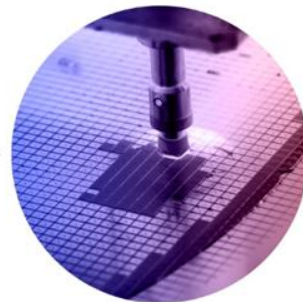
The AI Roadmap called for the government to develop a national strategy for AI to prioritise and set a time frame that will position the UK for success.



Sep 2021

### **National AI Strategy**

A ten-year plan to make Britain a global AI superpower that can and will adapt to changing circumstances to ensure the most effective delivery in the wider context of the fast-moving state of AI tech.



### **Delivery Plan**

Following the Spending Review we will publish a Delivery Plan that will set out our approach to monitoring and delivering the National AI Strategy in more detail, including the level of investment in AI.

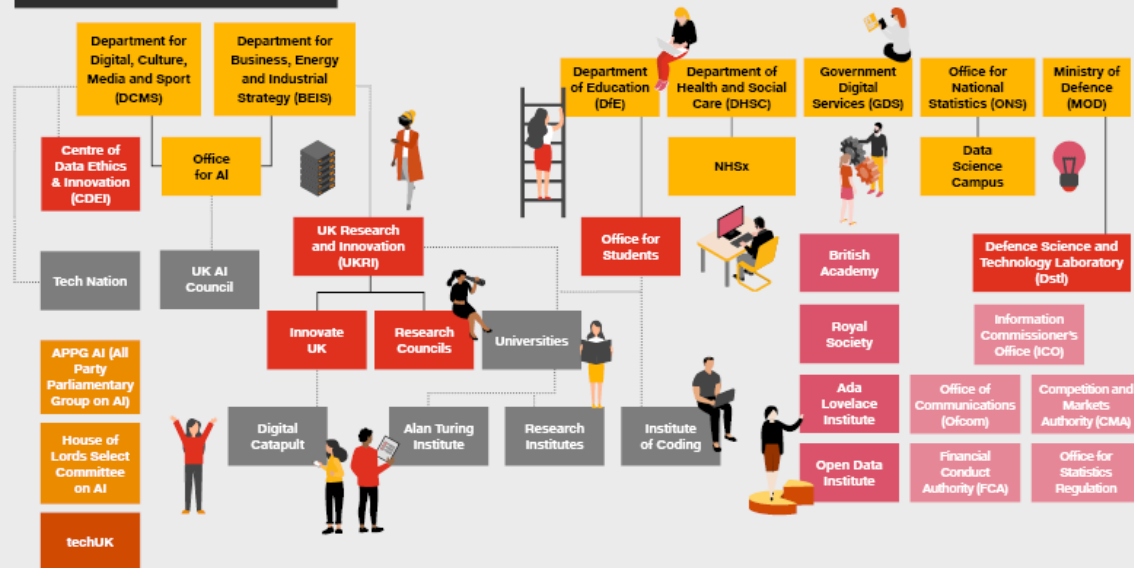


# National AI Strategy

## AI public policy and regulation in the UK



Illustrative and non-exhaustive



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# National AI Strategy







## Working with AI

Our goal is to make the public sector lead in the safe and ethical adoption of AI, deliver more for less, while improving public services.

### A guide to using AI in the public sector



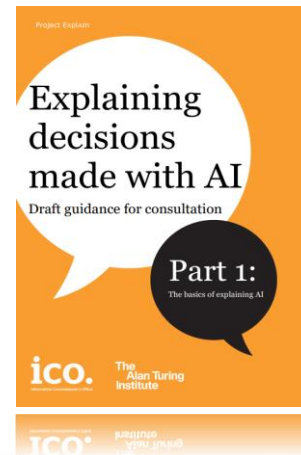
### Guidelines for AI procurement



### Ethics, Transparency and Accountability Framework for Automated Decision-making



### Explaining decisions made with AI

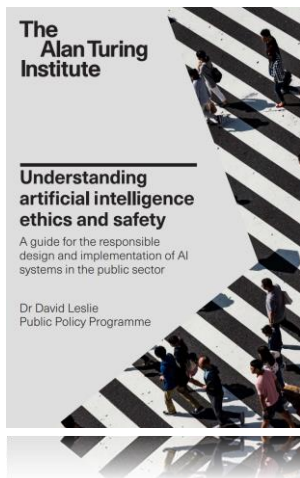




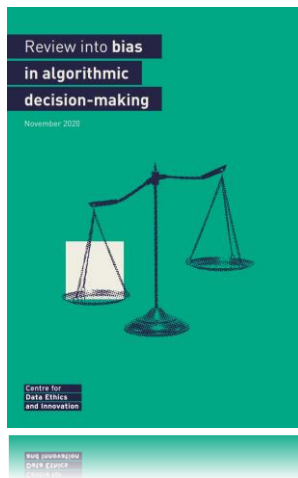
We have a rich library of work on AI and Data

All guidelines on AI and Data can be found on GOV.UK.

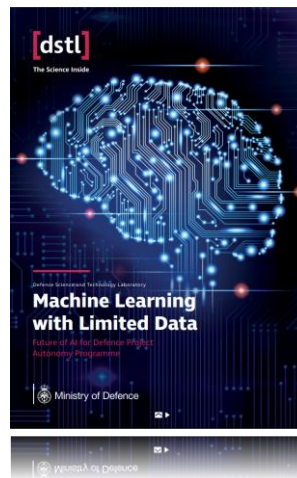
Understanding AI ethics and safety  
(The Alan Turing Institute)



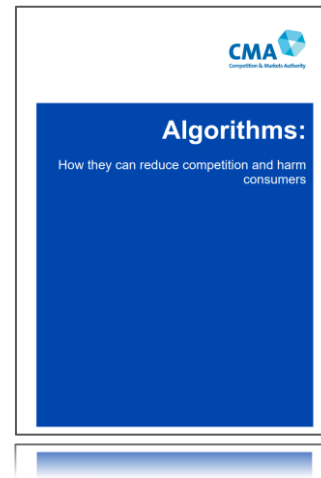
Review into bias in algorithmic decision-making  
(CDEI)



Machine learning with limited data (dstl)



Algorithms: How they can reduce competition and harm consumers  
(CMA)





## Trialling approaches to support sector adoption of AI and data technologies

### Data Trust pilots



- ◆ We joined forces with the Open Data Institute and Innovate UK on 3 data trusts pilot projects: tackling illegal wildlife trade, reducing food waste, and improving public services in the Royal Borough of Greenwich, London.
- ◆ The Open Data Institute are now taking this work forward with the view to developing an operational data trust.

### AI growth programme: Tech Nation Applied AI



- ◆ The programme helps nurture the UK's most talented entrepreneurs in AI.
- ◆ Now in its second year, of the 32 companies chosen, 44% of the founders are female, which is almost double the representation of female tech directors (23%) in UK tech.
- ◆ Over half (59%) of the companies are based outside of London.

### The STFC Hartree Centre



- ◆ The STFC Hartree Centre worked with AstraZeneca and IBM Research to offer scientist a new mechanism to access supercomputers without the need for specialist high performance computing expertise.
- ◆ This successful approach can help discover new classes of medicines, make them easier to manufacture, saving costs and boosting productivity.

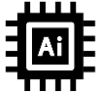
### New AI marketplace



- ◆ The new AI Dynamic Purching system) connects teams in the public sector with private sector expertise and experience.
- ◆ New and emerging suppliers - with fresh ideas - are now able to bid for government contracts, enabling the government to be a driver for AI innovation.
- ◆ All suppliers will need to address ethical considerations when providing AI services to public sector.



## Why do we need an AI Strategy?



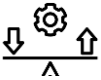
To successfully manage our transition to a period where general purpose AI technologies are reshaping the world



To signal to the world our serious intentions and our openness to working together



To identify the UK's strategic and comparative advantage and build on it



To be aware of and prepare to offset some of the (positive and negative) externalities which AI ubiquity may bring



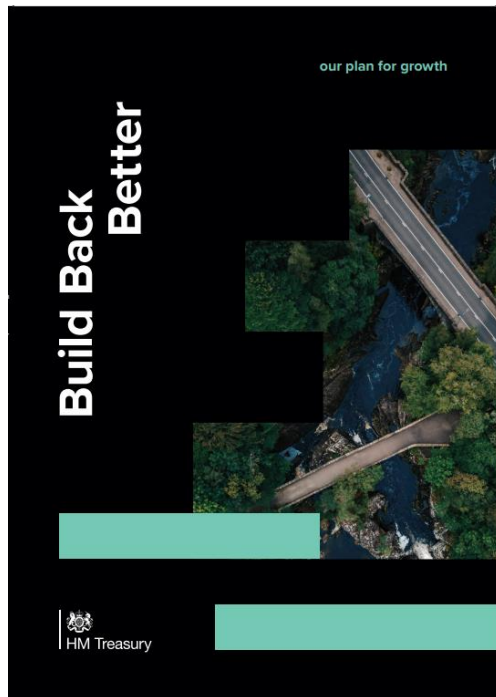
To coordinate government action to improve our operational effectiveness in doing all of the above





# National AI Strategy

## How we plug into other Strategies and priorities



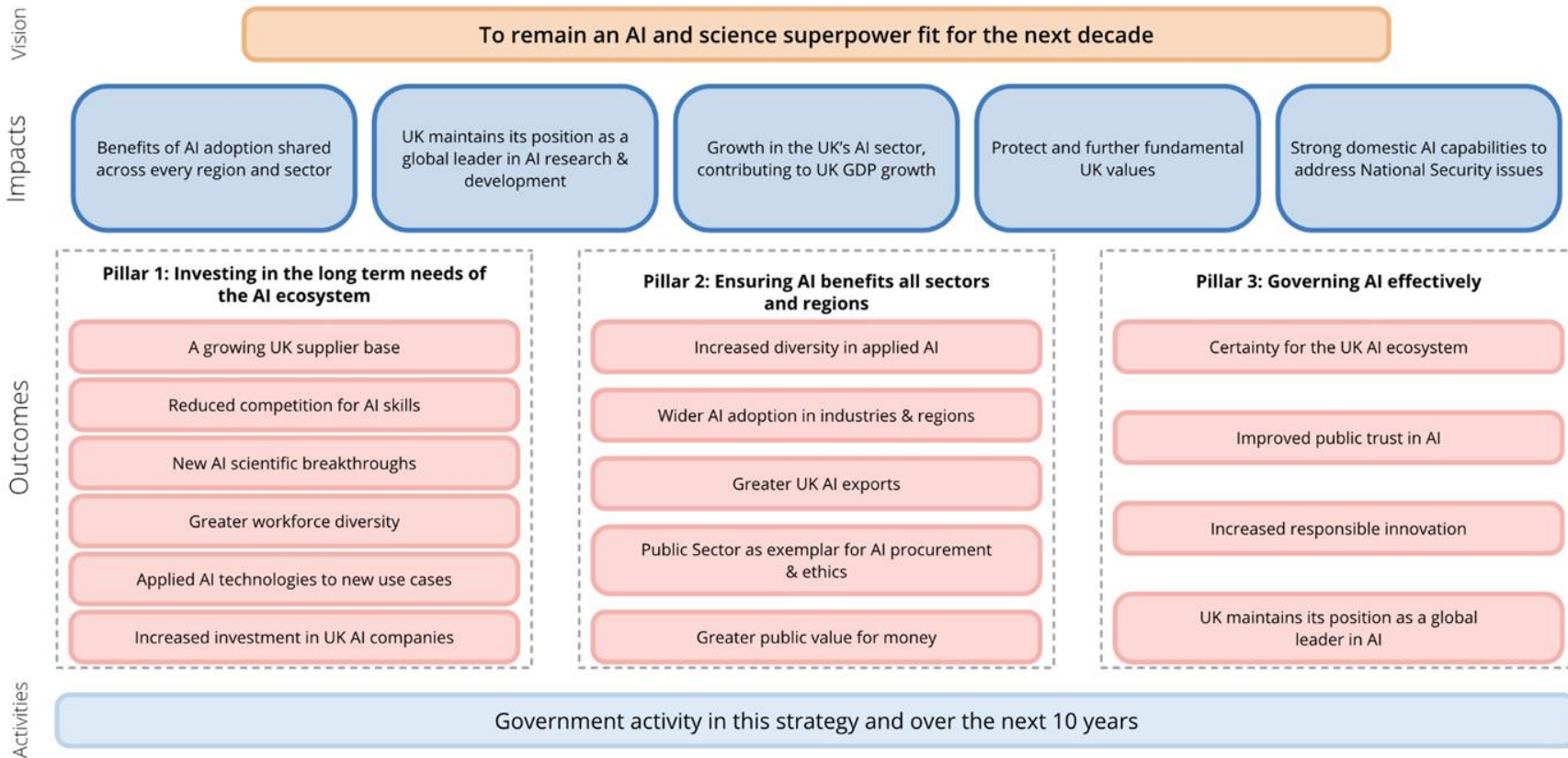
Policy paper

### Digital Regulation: Driving growth and unlocking innovation



# National AI Strategy

## Goals of the National AI Strategy





## Short term actions (next 3 months)

Investing in the Long Term Needs of the AI Ecosystem	• Publish a framework for Government's role in enabling better <b>data</b> availability in the wider economy
	• Consult on the role and options for a National <b>Cyber-Physical Infrastructure</b> Framework
	• Support the development of AI, data science and digital skills through the <b>Department for Education's Skills Bootcamps</b>
Ensuring AI Benefits All Sectors and Regions	• Begin engagement on the Draft National Strategy for AI-driven technologies in <b>Health and Social Care</b> , through the NHS AI Lab
	• Publish the <b>Defence AI Strategy</b> , through the Ministry of Defence
	• Launch a <b>consultation on copyright and patents for AI</b> through the IPO
Governing AI Effectively	• Publish the CDEI <b>AI assurance</b> roadmap
	• Determine the role of data protection in wider AI governance following the <b>Data: A new direction consultation</b>
	• Publish details of the <b>approaches the Ministry of Defence will use when adopting and using AI</b>
	• Develop an <b>all-of-government approach to international AI activity</b>



## Medium term actions (next 6-12 months)

Investing in the Long Term Needs of the AI Ecosystem	<ul style="list-style-type: none"><li>• Undertake a review of our international and domestic approach to <b>semiconductor supply chains</b></li></ul>
	<ul style="list-style-type: none"><li>• Consider what <b>open and machine-readable government datasets</b> can be published for AI models</li></ul>
	<ul style="list-style-type: none"><li>• Launch a new <b>National AI Research and Innovation Programme</b> that will align funding programmes across UKRI and support the wider ecosystem</li></ul>
	<ul style="list-style-type: none"><li>• <b>Work with global partners on shared R&amp;D challenges</b>, leveraging Overseas Development Assistance to put AI at the heart of partnerships worldwide</li></ul>
	<ul style="list-style-type: none"><li>• <b>Back diversity in AI</b> by continuing existing interventions across top talent, PhDs, AI and Data Science Conversion Courses and Industrial Funded Masters</li></ul>
	<ul style="list-style-type: none"><li>• Monitor and use National Security and Investment Act to protect <b>national security</b> while keeping the UK open for business</li></ul>
Ensuring AI Benefits All Sectors and Regions	<ul style="list-style-type: none"><li>• <b>Include trade deal provisions in emerging technologies</b>, including AI</li></ul>
	<ul style="list-style-type: none"><li>• Launch joint Office for AI / UKRI programme to stimulate the development and <b>adoption of AI</b> technologies in high potential, lower-AI-maturity sectors</li></ul>
	<ul style="list-style-type: none"><li>• Continue supporting the development of capabilities around <b>trustworthiness, adoptability, and transparency</b> of AI technologies through the National AI Research and Innovation Programme</li></ul>
Governing AI Effectively	<ul style="list-style-type: none"><li>• Join up across government to identify where <b>using AI can provide a catalytic contribution to strategic challenges</b></li></ul>
	<ul style="list-style-type: none"><li>• Explore with stakeholders the development of an AI <b>technical standards engagement</b> toolkit to support the AI ecosystem to engage in the global AI standardisation landscape</li></ul>
	<ul style="list-style-type: none"><li>• Work with partners in multilateral and multi-stakeholder fora, and invest in <b>GPAl</b> to shape and support <b>AI governance</b> in line with UK values and priorities</li></ul>
	<ul style="list-style-type: none"><li>• Work with The Alan Turing Institute to <b>update guidance on AI ethics and safety in the public sector</b></li></ul>
	<ul style="list-style-type: none"><li>• Work with national security, defence, and leading researchers to <b>understand what public sector actions can safely advance AI and mitigate catastrophic risks</b></li></ul>





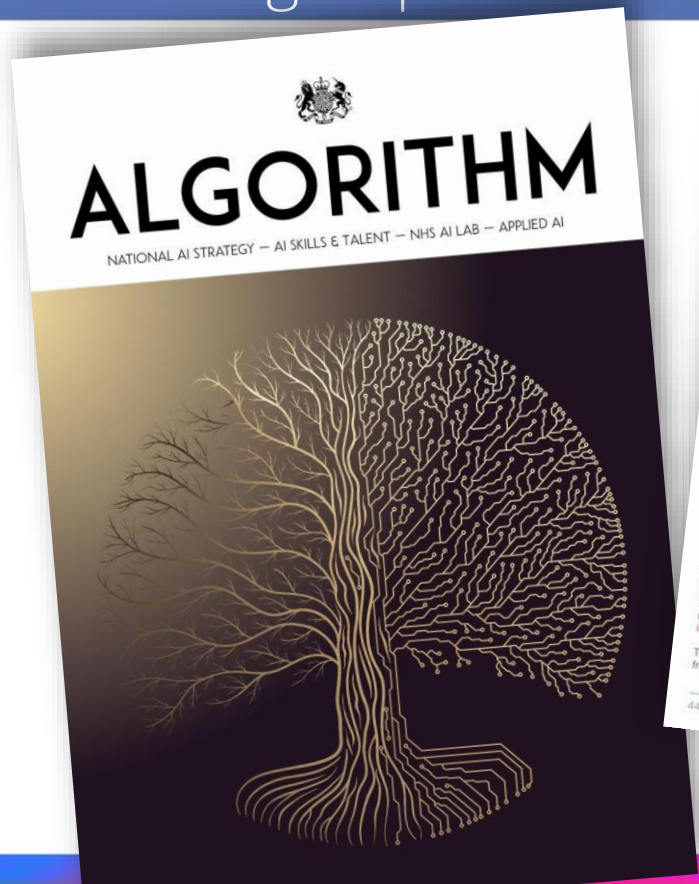
## Long term actions (next 12 months and beyond)

Investing in the Long Term Needs of the AI Ecosystem	<ul style="list-style-type: none"><li>• Publish research into what <b>skills</b> are needed to enable employees to use AI in a business setting and identify how national skills provision can meet those needs</li></ul>
	<ul style="list-style-type: none"><li>• Evaluate the <b>private funding</b> needs and challenges of AI scaleups</li></ul>
	<ul style="list-style-type: none"><li>• Support the National Centre for Computing Education to ensure <b>AI programmes for schools</b> are accessible</li></ul>
	<ul style="list-style-type: none"><li>• <b>Support a broader range of people to enter AI-related jobs</b> by ensuring career pathways highlight opportunities to work with or develop AI</li></ul>
	<ul style="list-style-type: none"><li>• Implement the <b>US UK Declaration on Cooperation in AI R&amp;D</b></li></ul>
	<ul style="list-style-type: none"><li>• Publish a review into the UK's <b>compute</b> capacity needs to support AI innovation, commercialisation and deployment</li></ul>
	<ul style="list-style-type: none"><li>• Roll out <b>new visa regimes</b> to attract the world's best AI talent to the UK</li></ul>
Ensuring AI Benefits All Sectors and Regions	<ul style="list-style-type: none"><li>• Publish research into opportunities to encourage <b>diffusion of AI</b> across the economy</li></ul>
	<ul style="list-style-type: none"><li>• Consider how <b>Innovation Missions</b> include AI capabilities and promote ambitious mission-based cooperation through bilateral and multilateral efforts</li></ul>
	<ul style="list-style-type: none"><li>• Extend UK aid to support local innovation in developing countries</li></ul>
	<ul style="list-style-type: none"><li>• Build an open <b>repository of AI challenges</b> with real-world applications</li></ul>
Governing AI Effectively	<ul style="list-style-type: none"><li>• Publish White Paper on a pro-innovation national position on <b>governing and regulating AI</b></li></ul>
	<ul style="list-style-type: none"><li>• Complete an in-depth analysis on <b>algorithmic transparency</b>, with a view to develop a cross-government standard</li></ul>
	<ul style="list-style-type: none"><li>• Pilot an <b>AI Standards Hub</b> to coordinate UK engagement in AI standardisation globally</li></ul>
	<ul style="list-style-type: none"><li>• Establish medium and long term horizon scanning functions to <b>increase government's awareness of AI safety</b></li></ul>



# National AI Strategy

Sign-up for our Newsletter at [gov.uk/officeforai](https://gov.uk/officeforai)



## How do you know which AI model is the right one for you?

Model A

Model B

Every day, AI is changing how we experience the world. We already use AI to find the fastest route home, alert us of suspicious activity in our bank accounts and filter out spam emails.

The UK Government recognises the importance of this technology's development to both business and the public sector. There are huge opportunities for government to capitalise on this exciting new technology to improve lives. We can deliver more for less, and give a better experience as we do so.

For citizens, the application of AI technologies will result in a more personalised and efficient experience. For people working in the public sector, it means a reduction in the hours they spend on basic tasks, which will give them more time to spend on innovative ways to improve services.

To help leaders and delivery teams benefit from better understanding of AI

technology, we have published guides (listed on the opposite page) that draw on best practice from the commercial sector and public sector and are subject to ongoing refinement.

The guides help to explain the opportunities AI presents and the limitations of its use, work out components for projects with a specific AI product is right for the organisation, and how to ensure the safe and ethical use of algorithms and automated systems.

Putting this readiness into practice and procuring innovative solutions from the UK's thriving tech sector will, in turn, benefit our economy and grow new and innovative markets across sectors.

Maximising the benefits of AI is a priority for government, and the guides are an important step forward towards reaching that goal. We encourage you to put these guides into practice for your organisation.

44

## A guide to using artificial intelligence in the public sector

AI GUIDANCE

The guide aims to provide practical advice for organisation leads who want to understand the best ways to implement AI solutions and for delivery leads who want to evaluate if AI can meet user needs.

## Guidelines for AI procurement

Public procurement can be an enabler for the adoption of AI and could be used to improve public service delivery.

The guidelines, co-developed with the World Economic Forum, provide a set of guiding principles on how to buy AI technology, as well as insights on tackling challenges that may arise during procurement. It is the first of such guidance.

## Ethics, Transparency and Accountability Framework for Automated Decision-making

The framework lists seven points that serve as a checklist for any public sector organisation making systems. If used and followed accordingly it will significantly reduce the likelihood of an incident, help to build trust, and progress government's effort to ensure the safe and ethical use of algorithms and automated systems.