



AI in the UK: Opportunities for collaboration and partnership

Dr Chris Moore
Technology Specialist
Department for Business & Trade, UK

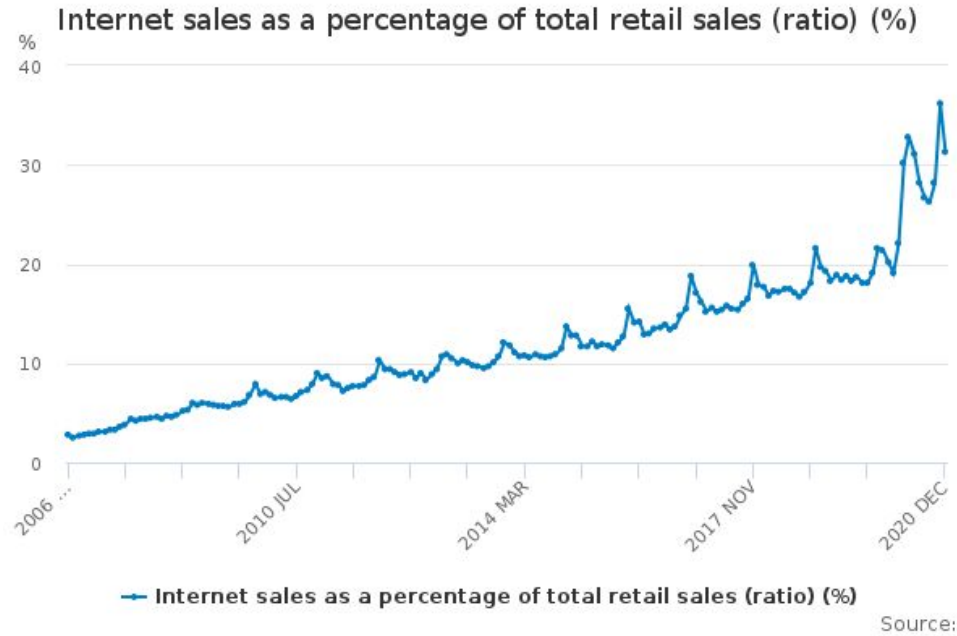
April 2023

Why the UK?

- **Market:** UK is the **5th** largest economy in the world with **67m** population – “Gateway to the Rest of the World”
- **Value:** UK Tech industry reached the **£1 trillion** milestone in 2022
- **Investment:** UK companies raised **£22.7bn** of VC Investment (2021); more than Germany & France combined
- **Growth:** UK has highest number of IPOs & more unicorns than anywhere in Europe
- **Culture:** UK is a nation of early adopters – **7th** easiest country in which to do business globally
- **Talent:** UK has an outstanding supply - **140+** universities, dedicated innovation visas and a heritage of **138** Nobel Prizes

UK is a very significant market opportunity for tech companies

The impact of COVID-19



Stronger demand for

- Cyber security
- Identity management
- Cloud infrastructure

All businesses moved online

New opportunities in

- UX/UI, Edtech, Fintech Communications..
- AI, data science
- Digital Health

More than one in four UK cyber attacks related to Covid-19



UK sees a 31% increase in cyber crime amid the pandemic

NEXOR

AI in the UK

- AI will add **£654bn** to UK's economy by 2035 (*Accenture study*)
- More than **1500** AI start-ups & SMEs in UK (*Digital Catapult 2022*)
- UK has received significantly more VC funding for AI start-ups (**£6.8bn**) than any other European country
- AI Sector Deal delivered **£0.95bn** investment: data access, R&D, skills and uptake; **£250m** investment in National Health Service (NHS) AI Lab
- National AI Strategy – will drive greater adoption of AI and talent supply growth
- Strong clusters with internationally recognised universities with expertise in AI: Cambridge, Edinburgh, **Leeds**, Manchester, Oxford, London, Bristol...



Market Opportunity



AI is needed in all sectors







UK is GREAT for Tech

- UK is **#1** for scale-ups in Europe, with **5** cities in the Top 20 list
- **30+** individual digital clusters
- All with individual specialisms – examples include:
 - Edinburgh (AI, data science..)
 - Leeds (AI, Fintech, Healthtech..)
 - Manchester (E-commerce, AI, Cyber..)
 - Cambridge (Healthtech, AI..)
 - Bristol (Smart cities, AI, IoT..)
 - Belfast (Cyber, Fintech, AI..)
 - Cardiff (Cyber, Cleantech, AI..)
- **~1000** workspaces across UK



How does the UK compare globally ?

Show: Rank

Country	Implementation			Innovation		Investment		Total rank
	Talent	Infrastructure	Operating Environment	Research	Development	Government Strategy	Commercial	
 United States of America	1	4	35	1	1	17	1	1
 China	24	1	6	2	2	2	2	2
 United Kingdom	3	23	24	5	11	11	4	3
 Canada	7	15	5	10	10	1	6	4
 Israel	5	29	14	7	9	45	3	5
 Singapore	4	8	55	4	14	15	5	6

The Global AI Index

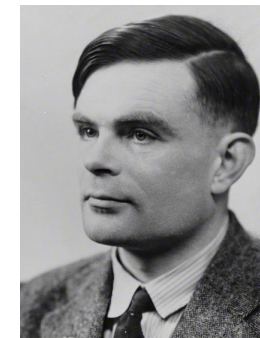
The first index to benchmark nations on their level of investment, innovation and implementation of artificial intelligence.

Tortoise

UK is #3 worldwide for AI



The Alan Turing Institute



Working with 13 UK universities



National Institute for Data Science & AI

Dedicated to British computer pioneer & code-breaker Alan Turing (£42m initial investment)

Strategic partnerships



R&D Funding, collaboration & universities

- **UK Research & Innovation (UKRI)** supports technology development – budget **~£8bn**
 - Close to market – **InnovateUK**
 - Strategic – **UKRI Challenge Fund** - 23 programmes
 - Early stage – **7 Research Councils**
- **Universities** – Many options: Masters/MBA/PhD projects, interns...
 - Centres for Doctoral Training (100+)** – 5-6 month PhD projects with companies
 - Knowledge Transfer Partnerships** – funded **~67%** by InnovateUK, 1-3 years
- UK also provides significant **Tax Incentives**
 - **R&D Tax Credits** – **£2.30** for each £1 spent
 - **Patentbox** – for IP created in the UK - **10%** tax rate vs 19%
 - **Creative Industries Tax Relief** **~25%**



Challenge Fund

4 Themes Artificial intelligence and data economy

Ageing society

Future of mobility

Clean growth

23 Challenges



Accelerating detection of disease



From data to early diagnosis & precision medicine



Manufacturing Made Smarter



Next generation services



Self-driving cars



Transforming food production

Skills - 16 Centres for Doctoral Training in AI

Health



Imperial College
London



THE UNIVERSITY
of EDINBURGH

NLP, Speech & Language



The
University
Of
Sheffield.



THE UNIVERSITY
of EDINBURGH

Electronics

UNIVERSITY OF
Southampton

Fundamental



Human-Computer interaction



Trust & Ethics



KING'S
College
LONDON

Environmental



Music





National Centre to rapidly advance best digital ideas to market

- AI
- Machine Intelligence Garage



Develops & supports industry-led collaborative innovation projects

- access to data science & AI talent
- industry & university collaboration

AI for Healthcare

- NHS AI Lab Managed by NHS - Transformation Directorate
- NHS AI Lab Virtual Hub - community space to interact and share knowledge and ideas about AI technology in health & social care
- 20+ funding streams available for AI projects in health and care

“The NHS AI Lab creates an environment for collaboration and co-creation by bringing together programmes which address significant barriers to development and deployment of AI systems in health and care.”

NHS England - Transformation Directorate

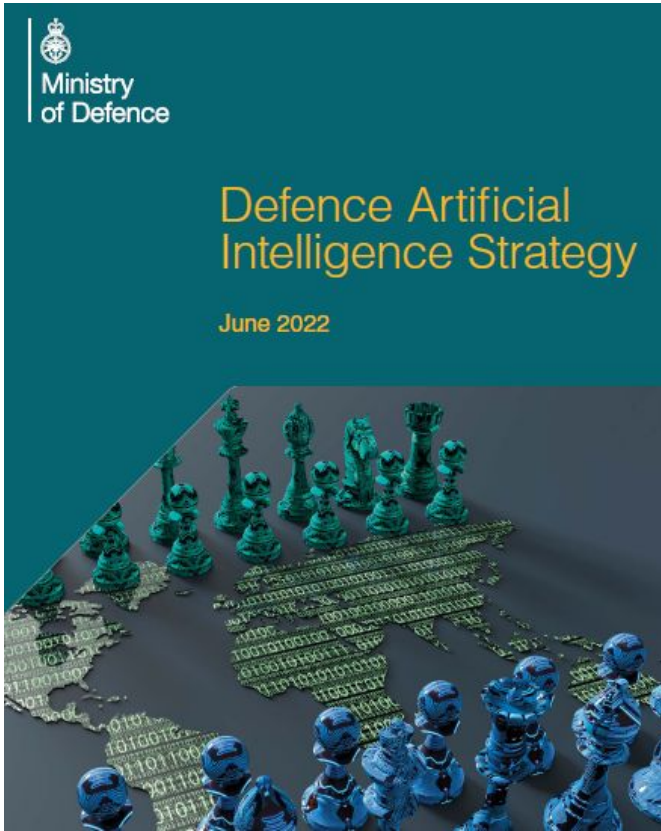
The NHS AI Lab

Accelerating the safe adoption of artificial intelligence in health and care



Artificial Intelligence: How to get it right

Putting policy into practice for safe
data-driven innovation in health and care



14 July 2022

AI Research Centre for Defence

**ARIA FORMALLY
ESTABLISHED**

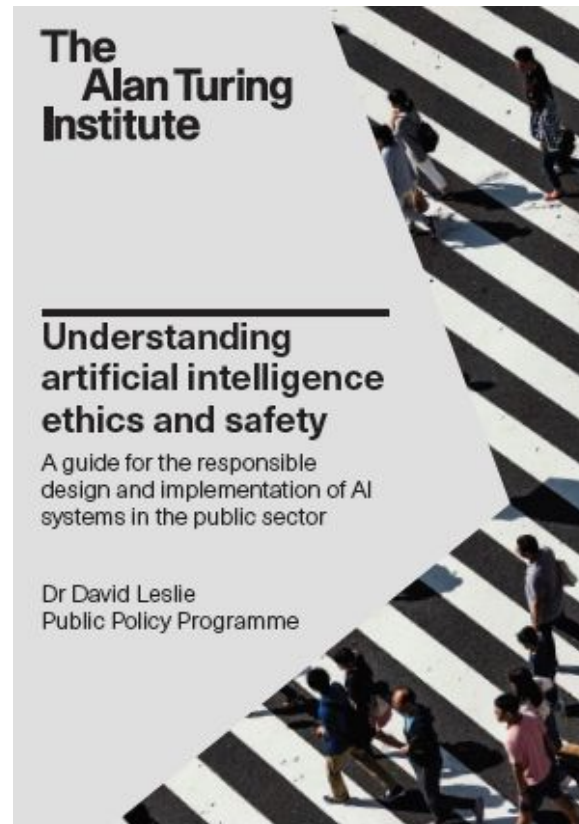
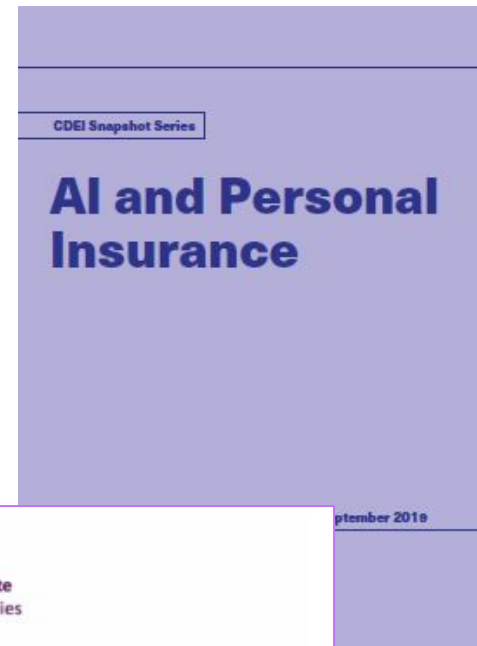
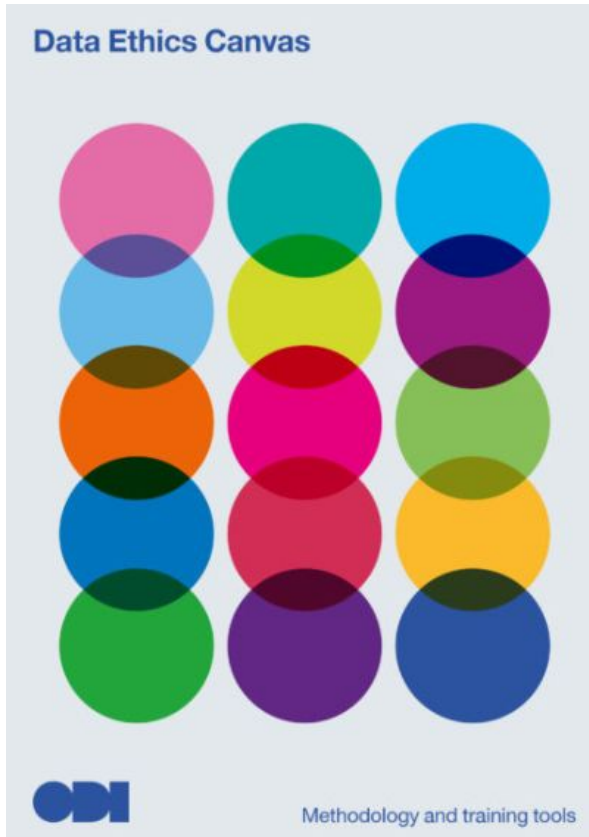
26 January 2023

Advanced Research and Invention Agency (ARIA)
New independent research body to fund high-risk
high-reward scientific research

£800m investment

Focus will include AI, Quantum & Robotics

AI & Ethics



Algorithm accountability

New approach to regulating AI



- Government launched AI document to guide the use of AI in the UK (Mar 2023)
- Outlines 5 clear principles that these regulators should consider to best facilitate the safe and innovative use of AI in the industries they monitor:
 - safety, security and robustness
 - transparency and explainability
 - fairness
 - accountability and governance
 - contestability and redress
- £2m to support a new sandbox
 - trial environment where businesses can test how regulation could be applied to AI products & services
 - will support innovators bringing new ideas to market (without being blocked by rulebook barriers)



Department for
Science, Innovation
& Technology



Office for Artificial Intelligence

Supporting UK start-ups & scale-ups



20 January 2023
**Barclays Eagle Labs
chosen to help
turbocharge next
generation of UK tech
stars**



Access to Funding

Many Options

- Seed Funds
- Business Angels
- VCs
- Corporate VCs
- Crowd Funding
- Debt Funding
- Government grants & loans

Most will require a UK presence

Many resources to help

- TechNation
- Beauhurst
- Incubators & Accelerators
- British Business Bank
- UK Business Angels Association
- BVCA
- UKTN

All of these can be accessed with the support of DBT



Global Entrepreneurs Programme (GEP)

- Enables internationally mobile entrepreneurs to scale and internationalise their innovation-rich companies from a Global HQ in the UK
- Once the company establishes its Global HQ in the UK, it receives tailored support as part of the GEP Alumni Academy
- Delivered by a team of experienced entrepreneurs (dealmakers) who work on a part-time basis, so they remain first and foremost entrepreneurs – [includes dedicated AI dealmaker](#)
- Provide mentoring, advice & support to grow the business, raise capital and find routes to market
- Company can retain operations in home market



UK AI companies



The Artificial Intelligence Top 50

We've ranked the top 50 artificial intelligence (AI) companies in the UK, by total amount of equity investment received to date. This includes funds raised through publicly-announced deals, as well as unannounced rounds.

Data correct as of May 2022.

 **Beauhurst**

AI Startups

Top 99 AI startups in UK

Updated: March 29, 2023



INNOVATION
EYE



**Artificial Intelligence
Industry in the UK
Landscape Overview 2021:
Companies, Investors,
Influencers and Trends**

Groups supporting AI

Communities



Collaboration



Talent & Skills



Talent

- UK has **4** of the Top **10** universities worldwide (Oxford, Cambridge, UCL & Imperial) and many more in the next **100**
- **£17m** to support AI conversion courses (2023-25), **250+** Masters programmes in AI
- Government supported apprenticeships – 5 levels up to Masters (Cambridge Spark)
- Many mechanisms to attract talent - recruitment fairs, internships, mobility schemes....
- Ability to draw on international talent from around the world



Department for Business & Trade – We can help you !

- DBT has a presence in 108 countries worldwide
- Experienced sector & location consultants
- Bank accounts, visas, virtual offices, co-working spaces, talent...
- Grow & access export markets from the UK: export opportunities, events, missions...



Department for
Business & Trade

Chris Moore

Technology Specialist, DBT-UK

chris.moore@trade.gov.uk