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Press release

New ten-year plan to make Britain a global AI superpower

National AI Strategy to boost business use of AI, attract international investment and develop next generation of tech talent

From:

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- Aims to position country as global leader in the governance of AI technologies and includes plans for a white paper on AI regulation.
- New National AI Research and Innovation Programme alongside review of nation's future computing capacity will help make sure UK discovers and develops latest innovations

The UK today launches its first National Artificial Intelligence (AI) Strategy to help it strengthen its position as a global science superpower and seize the potential of modern technology to improve people's lives and solve global challenges such as climate change and public health.

AI technologies underpin the tech and apps we use on a daily basis - from helping us navigate around cities and stopping online banking fraud to enabling voice recognition in smart speakers. They help clinicians improve their diagnosis of disease, are unlocking the potential for driverless cars and will deliver thousands of unforeseen benefits in everyday life.

The UK's first AI strategy - published on the third day of London Tech Week - marks a step change in the country's approach to the fastest growing emerging technology in the world. There are plans to launch a new national programme and approach to support research and development, publish a white paper on the governance and regulation of AI to build confidence in its use, plus moves to support organisations in every region and sector capitalise on the power of AI technologies.

The UK has a long and exceptional history in AI – from codebreaker Alan Turing’s early work through to London-based powerhouse DeepMind’s pioneering research which will enable quicker and more advanced drug discovery. The country is ranked third in the world for private venture capital investment into AI companies (2019 investment into the UK reached almost £2.5 billion) and home to a third of Europe’s total AI companies.

Alongside measures to develop the next generation of AI talent through continued support for postgraduate learning, retraining and making sure children from wide backgrounds can access specialist courses, the strategy will position the UK as a global leader in raising the standards around the use of the technology while building the case for deeper investor confidence. It includes plans to:

- Launch a National AI Research and Innovation Programme to improve coordination and collaboration between the country’s researchers and help transform the UK’s AI capabilities, while boosting business and public sector adoption of AI technologies and their ability to take them to market.
- Support the government’s levelling up agenda by launching a joint Office for AI (OAI) and UK Research & Innovation (UKRI) programme aimed at continuing to develop AI in sectors based outside of London and the South East. This would focus on the commercialisation of ideas and could see, for example, the government focusing investment, researchers and developers to work in areas which currently do not use much AI technology but have great potential, such as energy and farming.
- Publish a joint review with UKRI into the availability and capacity of computing power for UK researchers and organisations, including the physical hardware needed to drive a major roll out in AI technologies. The review will also consider wider needs for the commercialisation and deployment of AI, including its environmental impacts.
- Launch a consultation on copyright and patents for AI through the Intellectual Property Office (IPO) to make sure the UK is capitalising on the ideas it generates and that there is clarity in what and who determines copyright. This could include, for example, in situations where a creator was a machine rather than a human or if an algorithm used someone else’s patent.
- Trialing an AI Standards Hub to coordinate UK engagement in setting the rules globally, and working with The Alan Turing Institute to update guidance on AI ethics and safety in the public sector and create practical tools to make sure the technology is used ethically.

DCMS Minister Chris Philp said:

Artificial intelligence technologies generate billions for the economy and improve our lives. They power the technology we use on a daily basis and help save lives through better disease diagnosis and drug discovery.

The UK already punches above its weight internationally and we are ranked third in the world behind the USA and China in the list of top countries for AI.

Today we’re laying the foundations for the next ten years’ growth with a strategy to help us seize the potential of artificial intelligence and play a leading role in shaping the way the world governs it.

The strategy comes in the week new data shows global investors poured £13.5 billion into more than 1,400 UK private technology firms between January and June this year - more than that achieved in other large tech markets Germany, France and Israel combined.

It follows government investment of more than £2.3 billion into AI since 2014, and has a ten-year vision to transform the UK’s capabilities in AI in parallel with the rapid technological expansion around the world. Its aim is to position the UK as the best place to live and work with AI, with clear rules, applied ethical principles and a pro-innovation regulatory environment.

It focuses on three pillars which include making sure the country invests in the long term growth of AI; that it benefits all sectors and regions of the economy; and that it is governed effectively by adequate rules which encourage innovation, investment and protect the public and the country's fundamental values.

This includes measures to support skills, including the country's Turing Fellowships Programme, Centres for Doctoral Training and postgraduate industrial masters and conversion courses, alongside plans to support the National Centre for Computing Education to ensure programmes for children in AI are accessible and reach the widest demographic.

The government will also launch a Defence AI Strategy later this year, the new Defence AI Centre through the Ministry of Defence and begin engagement on the draft National Strategy for AI-driven technologies in Health and Social Care through the NHS AI Lab.

Government Chief Scientific Adviser Sir Patrick Vallance said:

AI technologies have the capacity to fundamentally transform many aspects of the way we live and work.

The UK is already a world leader in certain aspects of AI – and this strategy helps to define how to enhance those capabilities further to ensure that the UK can both develop and use AI for the benefit of citizens.

Benevolent AI CEO and Co-Chair of Global Partnership on Artificial Intelligence (GPAI) Joanna Shields said:

There has never been a more important time to invest in AI and I'm delighted that the UK Government is recognising its profound potential with the launch of the National Strategy on AI.

A comprehensive strategy and vision for how we drive innovation, economic growth, job creation and social good. AI, successfully and ethically deployed, could become a foundational technology for the future growth of our economy and protecting our security and society.

Founder and CEO of DeepMind Demis Hassabis said: > AI could deliver transformational benefits for the UK and the world - accelerating discoveries in science and unlocking progress on key challenges facing society. It's great to see the scale of the opportunity recognised in the National AI Strategy, and I'm excited to see how it translates into action.

Institute Director and Chief Executive of The Alan Turing Institute Professor Sir Adrian Smith said:

The UK's first national AI strategy is a major moment and we need to capitalise on this momentum to advance the UK's international reputation in this broad discipline.

As the UK's national institute for data science and AI, The Alan Turing Institute is actively supporting the most ambitious agenda of developing transformative new AI technologies.

We are proud of creating a dynamic, collaborative community of diverse researchers and are growing world-leading capabilities in responsible, safe, ethical and inclusive AI research and innovation.

These technologies are already improving lives and their prominence continues to grow in our society. To ensure they go from strength to strength it's critical we foster a sustainable, inclusive, multidisciplinary UK AI ecosystem that attracts people from all walks of life and allows them to flourish.

Interim Chair of the Centre for Data Ethics and Innovation Edwina Dunn said:

AI has the potential to transform our society and economy. It can be harnessed to fuel business creation, transform public services, and make scientific breakthroughs. This depends on a foundation of trust. I'm delighted to see the National AI Strategy published today, setting out a plan to cement the UK's position as a global leader in the development and deployment of trustworthy AI. Putting the right governance regime in place will be crucial, and the Centre for Data Ethics and Innovation will soon be publishing an AI assurance roadmap to help build an ecosystem of products and services for evaluating the trustworthiness of AI systems.

Founding CEO of Tech Nation Gerard Grech said:

At Tech Nation, we're thrilled with the announcement of this new AI Strategy. AI is one of the UK's fastest-growing tech sectors, with venture capital investment in UK AI companies currently at \$3.3bn thus far in 2021, already surpassing the \$3bn invested in 2020.

Supporting and scaling the innovative tech businesses that are shaping the future of our society and economy is at the heart of our mission, which is why we are also delighted to be welcoming 32 AI scaleups onto our Applied AI 3.0 program today, focused on solutions to improve and transform key industries such as healthcare, energy and finance, for the better.

President of techUK Jacqueline de Rojas said:

Today's publication of the UK Government's National AI Strategy is an opportunity to strengthen the UK's position as a leading AI innovator.

Setting out a clear plan to build an AI future that is inclusive and builds public trust in this transformative tech is a clear imperative and also an opportunity. Government must now focus on operationalising the strategy to ensure it supports businesses and communities across all sectors and regions to adopt and use AI".

VP Enterprise EMEA at NVIDIA David Hogan said:

Today is an important step in furthering the UK's strategic advantage as a global leader in AI.

NVIDIA is proud to support the UK's AI ecosystem with Cambridge-1, the country's most powerful supercomputer, and our Inception incubator programme that includes more than 500 of the UK's most dynamic AI start-ups.

Senior Vice President Medicinal Science and Technology at GSK Tony Wood said:

At GSK, we're exploring the potential of Artificial Intelligence and Machine Learning to uncover insights from human genetics and genomics and help double success rates to develop more and better medicines and vaccines needed by patients in Britain and around the world.

We support the Government's AI strategy and ambition to maintain and build on the UK's position as a world leader in this field. It's important that we have the right ecosystems where we can carry out ground-breaking research quickly and with world-class partners.

We already do a lot of this exciting work in the UK, including our recently-announced collaboration with King's College London which aims to personalise care for patients with cancer. The implementation of the strategy will help ensure the UK remains a leading destination for AI innovation.

CEO of Rolls-Royce Warren East said:

We welcome the Government's AI strategy because we believe AI can be used for the good of society. For Rolls-Royce, it's critical to our net zero ambitions, the sustainability of our business and helping our customers.

We've shared our AI breakthroughs in a free ethics and trustworthiness toolkit called The Aletheia Framework, and are collaborating with other sectors so we can improve together and help build trust in AI.

Chief Digital and Innovation Officer of BT Group Harmeen Mehta said:

We love the Government's focus on AI and making the UK THE place for nurturing and growing the best talent in AI and machine learning.

Our own AI first approach in BT Digital, using deep data science and data led insights to best serve our customers and hyper personalise our services, means we're well placed to support this. BT is investing in every wave of AI and we're now registering more patents for AI than any other UK body.

Looking ahead, we're building a powerful data and AI hub at BT with over a hundred new roles for data scientists, data product leads and data engineers in the next 12 months and partnering with some of the best data organisations. We're excited about the impact we can have in making the UK the data and AI technology hub that the world looks towards.

Director of Policy At BCS, the Chartered Institute for IT, Dr Bill Mitchell OBE Said:

The new National AI Strategy gives the UK the best chance of developing a world class workforce that is inclusive and diverse and also with the skills and knowledge to ethically build and deploy AI digital systems that will benefit everyone.

The National AI Strategy is going to be an essential component of ensuring we really do build back better, because AI will be key to figuring out how best to provide opportunities for increasing economic productivity and growth, but also improving public services to maximise their value to society.

Director of AI at NHSX Dr Indra Joshi said:

We welcome the National AI Strategy's commitment to building up the skills base for AI technologies, just as the NHS is looking to strengthen its health and social care system, enabled by AI technologies, to deliver better outcomes for the public.

Notes to editors

In January 2021, the AI Council published its 'AI Roadmap' (<https://www.gov.uk/government/publications/ai-roadmap>) providing 16 recommendations to the government on the strategic direction for AI. This included the recommendation to develop a National AI Strategy to build on the success of investments made through the £1 billion AI Sector Deal.

The National AI Strategy follows:

- The Plan for Growth (<https://www.gov.uk/government/publications/build-back-better-our-plan-for-growth>) and recent Innovation Strategy (<https://www.gov.uk/government/publications/uk-innovation-strategy-leading-the-future-by-creating-it>), which recognise the need to develop a diverse and inclusive pipeline of AI professionals with the capacity to supercharge innovation.

- The Integrated Review (<https://www.gov.uk/government/publications/global-britain-in-a-competitive-age-the-integrated-review-of-security-defence-development-and-foreign-policy>) using technology to boost prosperity and security at home and abroad, and shape the open international order of the future.
- The National Data Strategy (<https://www.gov.uk/government/publications/uk-national-data-strategy>) to harness the power of responsible data use to boost productivity, create new businesses and jobs, improve public services, support a fairer society, and drive scientific discovery, positioning the UK as the forerunner of the next wave of innovation.
- The Plan for Digital Regulation (<https://www.gov.uk/government/publications/digital-regulation-driving-growth-and-unlocking-innovation>) which sets out the government's approach to regulating digital technologies in a way that drives prosperity and builds trust in their use.
- A review of the UK's large-scale computing ecosystem (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1018875/UK_Computing_report_-_Final_20.09.21.pdf) and the interdependency of hardware, software and skills.

It comes ahead of plans to deliver:

- The upcoming National Cyber Strategy to continue the drive for securing emerging technologies, including building security into the development of AI.
- A Digital Strategy to build on DCMS's Ten Tech Priorities (<https://dcms.shorthandstories.com/Our-Ten-Tech-Priorities/index.html>) to further set out the government's ambitions in the digital sector.
- A new Defence AI centre.
- The National Security Technology Innovation exchange (NSTIx) to bring together National Security stakeholders, industry and academic partners to build better national security capabilities
- The upcoming National Resilience Strategy (<https://www.gov.uk/government/consultations/national-resilience-strategy-call-for-evidence>) which will in part focus on how the UK will stay on top of technological threats.

The government has invested more than £2.3 billion into AI across a range of initiatives since 2014.

This includes:

- £250 million to develop the NHSX AI Lab to accelerate the safe adoption of Artificial Intelligence in health and care
- £250 million for Connected and Autonomous Mobility (CAM) technology through the Centre for Connected and Autonomous Vehicles (CCAV)
- Investment in 16 new AI Centres for Doctoral Training at universities across the country, backed by up to £100 million and delivering 1,000 new PhDs over five years;
- A new industry-funded AI Masters programme and up to 2,500 places for AI and data science conversion courses. *This includes up to 1,000 government-funded scholarships;
- Investment into The Alan Turing Institute and over £46 million to support the Turing AI Fellowships to develop the next generation of top AI talent;

- Over £372 million of investment into UK AI companies through the British Business Bank for the growing AI sector; £172 million of investment through the UKRI into the Hartree National Centre for Digital Innovation, leveraging an additional £38 million of private investment into High Performance Computing.

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