

Press release: Tech sector backs British AI industry with multi million pound investment

- More than 50 leading technology companies and organisations have contributed to the development of an AI deal worth almost £1 billion, including almost £300m of private sector investment into UK sector
- 1,000 new government funded AI PhDs will keep the UK at the forefront of innovation and build UK status as AI research hotspot

More than 50 leading businesses and organisations have contributed to the development of a £1 billion deal to put the nation at the forefront of the artificial intelligence industry, featuring almost £300 million of new private sector investment.

The deal between government and industry, announced by Business Secretary Greg Clark and Digital Secretary Matt Hancock today (Thursday 26 April 2018), also includes more than £300 million of newly allocated government funding for AI research to make the UK a global leader in this technology.

Building on the commitment made in the government's modern Industrial Strategy and its AI Grand Challenge, the deal marks the first phase of a major innovation-focused investment drive in AI which aims to help the UK seize the £232 billion opportunity AI offers the UK economy by 2030 (10% of GDP).

The AI Sector Deal follows record levels of investments into UK tech in 2017 and today's deal includes new investments such as:

- Japanese venture capital firm Global Brain opening its first European HQ in the UK and investing £35 million in UK deep-tech start-ups
- The University of Cambridge opening a new £10 million AI supercomputer and making its infrastructure available to businesses
- Top-ranking Vancouver-based venture capital firm Chrysalix, is also going to establish a European HQ in the UK and use it to invest up to £110 million in AI and robotics
- The Alan Turing Institute and Rolls-Royce will jointly-run research projects exploring: how data science can be applied at scale, the application of AI across supply chains, data-centric engineering and predictive maintenance, and the role of data analytics and AI in science.

Secretary of State for Digital, Culture, Media and Sport Matt Hancock said:

The UK must be at the forefront of emerging technologies, pushing boundaries and harnessing innovation to change people's lives for the better.

Artificial Intelligence is at the centre of our plans to make the UK the best place in the world to start and grow a digital business. We have a great track record and are home to some of the world's biggest names in AI like Deepmind, Swiftkey and Babylon, but there is so much more we can do.

By boosting AI skills and data driven technologies we will make sure that we continue to build a Britain that is shaping the future.

Developing AI Skills

The deal will help establish the UK as a research hotspot, with measures to ensure the innovators and tech entrepreneurs of tomorrow are based in the UK, with investment in the high-level post-graduate skills needed to capitalise on technology's huge potential.

It includes money for training for 8,000 specialist computer science teachers, 1,000 government-funded AI PhDs by 2025 and a commitment to develop a prestigious global Turing Fellowship programme to attract and retain the best research talent in AI to the UK.

This will make sure every secondary school has a fully qualified computer science GCSE teacher to give the next generation the skills they need to develop and capitalise on future technology.

As part of the deal, the accountancy firm Sage have also committed to delivering an AI pilot programme for 150 young people across the UK.

Regional Tech Hubs

The Government will build on its reputation as an international hub for AI innovation and provide £20 million of funding to help the UK's service industries, including law and insurance, with new pilot projects to identify how AI can transform and enhance their operations. The Government has also pledged £21m of funding to create Tech Nation, a new UK-wide organisation working across the country to create a high-growth tech network for ambitious entrepreneurs. One of Tech Nation's new goals will be to establish an internationally-respected programme for mid-stage AI companies to help bring them to scale.

World's first Centre for Data Ethics

The deal highlights government work to ensure all AI developments in Britain are conducted to the highest ethical standards by establishing a world-leading Centre for Data Ethics and Innovation. The £9 million Centre will be an important part of plans to make the UK the best place in the world for businesses developing AI to grow and thrive. It will address the challenges posed by the adoption of AI and advise on the measures needed to enable and ensure safe, ethical and innovative uses of data-driven technologies, while helping protect consumers.

Business and Energy Secretary Greg Clark said:

Artificial intelligence provides limitless opportunities to develop new, efficient and accessible products and services which transform the way we live and work. Today's new deal with industry will ensure we have the right investment, infrastructure and highly-skilled workforce to establish the UK as a driving force in the development and commercial use of artificial intelligence technologies.

As with all innovation there is also the potential for misuse which puts the whole sector under scrutiny and undermines public confidence. That is why we are establishing a new world-leading body, to ensure the ethical use of data in AI applications for the benefit of all.

International Trade Secretary, Dr Liam Fox said:

Today's announcement reaffirms the UK's place as a world leader in artificial intelligence. This government is determined that British businesses should now take the next steps to build on the growing global opportunities provided by the advancement of AI, changing the lives of millions of people.

As an international economic department, we will help UK companies in the AI sector to forge new trading ties that will boost exports, investment and provide jobs to every part of the country.

AI Grand Challenge

The new sector deal is the focal point of the government's [Artificial Intelligence Grand Challenge](#), a key part of the government's modern [Industrial Strategy](#) which sets out a long-term plan to boost the productivity and earning power of people throughout the UK. The AI Grand Challenge aims to put the UK at the forefront of the AI and data revolution ensuring the vast social and economic benefits of this technology are felt in every corner of Britain.

The Industrial Strategy set out four Grand Challenges to put the UK at the forefront of the industries of the future. AI and Data is one of these and this sector deal provides the blueprint for delivery.

The government's modern Industrial Strategy sets out a long term plan to boost the productivity and earning power of people throughout the UK. It sets out how we are building an economy fit for the future – how we will help businesses create better, higher-paying jobs in every part of the UK with investment in skills, industries and infrastructure.

Dame Wendy Hall said:

It is very exciting to see the recommendations in the AI Review turned into reality through this bold and ambitious Sector Deal for AI. We are at a pivotal point in the application of AI across many different sectors of industry and I truly believe the U.K. can take a leadership role in developing the use of AI in industry in a safe and ethical way that will be of benefit to everyone.

The AI sector deal will make Britain the go to place for AI and make sure this technology is used as a force for good to benefit people, from government's investment in early diagnostics and precision medicines projects that will use AI to help diagnose chronic illnesses, to a commitment to establishing Data Trusts between government, industry and academia to ensure data sharing is safe and secure.

To better understand the ethical and security implications of data sharing and privacy breaches, the [Engineering and Physical Sciences Research Council \(EPSRC\)](#) is investing £11 million in eleven new research projects, led by universities, to analyse the important challenges for people and businesses that use data and those that allow access to their data.

Neil Crockett, Chief Digital Officer, Rolls-Royce, said:

At Rolls-Royce, we believe that AI is central to unleashing huge value for our customers and from within our own business, and in achieving our goal of pioneering the power that matters.

This MoU signals an exciting new phase in Rolls-Royce's relationship with The Alan Turing Institute. We believe this collaboration will further strengthen Rolls-Royce's reputation as a world-leading adopter of AI technologies in an industrial context. At the same time, it will support the institute's position, and thus the UK's position, as a global centre of excellence for data science and AI.

Marc Waters, Managing Director (UK & Ireland), Hewlett Packard Enterprise said:

Artificial intelligence presents a significant opportunity to create competitive advantage for the UK economy with benefits for companies, workers and consumers.

The opportunity exists not only to harness the power of AI for innovation and scientific discovery but to improve productivity and provide economic growth.

Notes to editors

AI in the UK

The AI sector deal will not only support new adopters of AI, it will help the UK's trailblazing companies who are already embracing this tech and using it to create clusters of expertise, high-skill jobs and investing in developing this technology. Companies and bodies in the UK actively embracing AI in what they do include:

- UK Space Agency investing £3 million through Harwell-based Satellite Applications Catapult in a project that will use artificial intelligence and satellite technology to help detect illegal jungle gold miners in Colombia
- As part of a partnership with CodeBase, Barclays PLC has launched its first Scottish 'Eagle Lab' in Edinburgh. *The lab provides businesses with access to the tools they need to rapidly produce and test prototypes, and Scottish communities with the skills and training they need to thrive.
- IQE, a specialist in semiconductors, is investing £38 million alongside Cardiff University to develop a new state-of-the-art facility that will manufacture components used in AI applications.
- Cleo, a hyper-intelligent AI financial assistant that's simplifying money, is being fully automated so it can learn from users' data, helping and advising on finances with a voice and intelligence in tune with a user's preferences.
- Heralding a new era of defending against today's advanced and novel cyber-threats, Darktrace has been deployed over 5,000 times across 97 countries, defending against some of the most complex corporate and critical national infrastructure environments in the world.
- BT is collaborating with Ulster University by investing in a new £29 million AI research and development cluster that aims to attract and retain industrial engineers and university researchers to the area.
- Exscientia is the first company to use pioneering AI for drug discovery and design, enabling critical breakthroughs to improve productivity and drug efficacy.
- To help lawyers do legal searches and draft the best standard documents, the law firm Pinsent Masons has developed its own team of computer scientists and legal engineers to put AI into practical context for its lawyers.
- Hewlett Packard Enterprise (HPE) recently announced new offerings to help its customers ramp up, optimize and scale AI usage across business

functions to drive outcomes such as better demand forecasting, improved operational efficiency and increased sales.

- Using the most advanced Artificial Intelligence, Your.MD has built the world's first AI personal health guide that provides users immediate trustworthy healthcare advice from the NHS to anyone with access to a mobile phone
- With technology that records patterns of behaviour, including what learning style works for each student, CENTURY, an AI platform, is helping children learn and teachers provide more personalised education programmes, with feedback and suggestions to help fill knowledge gaps.

This comes as UK start-up backer Founders Factory welcomes four new AI firms to its London accelerator centre. They've also launched the first AI business in its business incubator – Chosen.AI which has developed a process to replicate the expensive and inefficient process of talent recruitment.

Their four new AI firms are:

- Orbo.AI – a computer vision software company which uses AI to create face filters, virtual make up, image retouching and can understand context in photos.
- UQuant – a spin-out from Imperial College using AI to help engineers analyse data to improve how they do test simulations and avoid manufacturing errors even at early production stages. Pilot clients included NASA, Rolls Royce and McLaren.
- Peptone – uses AI to develop and improve proteins which can lead to improved drug performance and reduced costs for drug companies, helping to make better drugs available to patients.
- Repls.AI – an Israeli firm from Tel Aviv, using AI to support companies customer service efforts by learning from their best customer service agents.

Additional quotes:

The Exchequer Secretary to the Treasury, Robert Jenrick said:

Artificial intelligence will enable us to work smarter, boost our productivity and make the country richer. "From search engines to self-driving cars, this technology will be at the heart of our new economy. That's why we continue to back our AI innovators in order to cement the UK's position as a world-leader in this cutting-edge technology.

Marc Waters, Managing Director (UK & Ireland), Hewlett Packard Enterprise said:

Artificial intelligence presents a significant opportunity to create competitive advantage for the UK economy with benefits for companies, workers and consumers.

The opportunity exists not only to harness the power of AI for innovation and scientific discovery but to improve productivity and provide economic growth.

However, many UK enterprises are still struggling to find viable use cases for their business and take tangible, near-term steps toward making these a reality. To help fill this gap, HPE is investing in and providing these organisations with the specialised AI expertise and supercomputing infrastructure needed to support AI applications.

Professor Michael Denham, Chief Executive and Co-Founder of Mindtrace Ltd said:

Just as computing technology has served us well by allowing us to make complex computations which are far beyond human capabilities, AI technology will increasingly support us in our ability to make complex and timely decisions, in healthcare, transportation, manufacturing, security, and many other areas, with super-human levels of accuracy, speed and efficiency, enhancing our lives in ways which we are only beginning to understand.

Antony Walker, deputy CEO, techUK said:

The UK has an impressive track-record on AI. But we must keep pace and as the scale of innovation continues to accelerate, we need to ensure that the UK stays at the forefront in the development and application of these powerful new technologies.

The Government's AI Sector Deal provides a clear blueprint for how the UK can become a world-leader in innovative, responsible and ethical AI. The sector deal focuses on the key issues of maintaining leadership and driving uptake, building the skills pipeline and ethics. Success will depend upon AI companies being deeply engaged in the process.

Gerard Grech, CEO Tech Nation, said:

One of the biggest changes the UK faces over the next 10 years is technological and the development of Artificial Intelligence will be at the forefront of it. The UK needs to embrace it and shape it. As a recognised global centre of AI expertise with companies like DeepMind, Improbable and 5AI, the UK is in a great position, and by building strong networks of shared knowledge and expertise, we can make it even stronger.

Tech Nation cannot wait to get started on shaping its first

programme for the UK's fastest-growing AI companies next year, which will help those who have proven their potential to reach the next level.

Hugh Milward, Senior Director, Corporate External and Legal Affairs, Microsoft UK, said: > > The UK is poised to do great things in the field of AI. If the Sector Deal can ensure that the development of AI is ethical, inclusive and responsible then the UK, as the home of the father of AI Alan Turing, will have a bright future as a world leading centre for AI.

Further notes to editors:

1. AI holds transformative implications for every aspect of our lives and every sector of the economy. The economic prize is clear: potentially adding 10% to UK GDP by 2030 if adoption is widespread (PWC), and a productivity boost of up to 30% (Bank of America).
2. The Industrial Strategy, published in 2017 , following the independent review of AI in the UK in 2017, 'Growing the Artificial Intelligence Industry in the UK', commits to the Grand Challenge of putting the UK at the forefront of the AI and data revolution, helping sectors boost their productivity through new technologies, helping people develop the skills they need and leading the world in the safe, ethical use of data.
3. The Sector Deal is the first major initiative under the grand challenge, that outlined proposals for how government could work with industry to stay ahead of the competition and grow the UK's use of AI right across the economy in a safe and ethical way, for the benefit of all in society.
4. The interim Centre for Data Ethics and Innovation will start work on key issues straight away and its findings will be used to inform the final design and work programme of the permanent Centre, which will be established on a statutory footing in due course. A public consultation on the permanent Centre will be launched soon.
5. We are announcing new challenges where we will work with industry to develop innovative uses of AI and advanced analytic technologies through the £1.7 billion Industrial Strategy Challenge Fund. These include 'Next-Generation Services' , 'Early Diagnostics and Precision Medicine', and 'Transforming Food Production'.

Trailblazing UK AI companies and projects:

Accurate fruit farming

Berry Gardens Growers Ltd based in Lincoln

The company is working with the University of Lincoln at the cutting edge of agri-food to use advanced autonomous systems in the production of fruit. The project will deploy novel digital technologies including vision systems, robotics and autonomous systems in order to detect, locate and measure the size and colour of fruit in real time, and aims to directly stimulate new markets and supply chains in the production of systems to support agricultural producers.

Turning customer feedback into tangible insights

Hertzian based in Cornwall

Hertzian are a technology company founded in 2015 as part of the Falmouth University Launchpad programme. Since their launch they have become a key player in Cornwall's diverse and thriving tech community. Hertzian have built their own artificial intelligence (AI) powered free-text analysis platform and their software helps businesses around the world find actionable insights inside large amounts of customer feedback. Through the use of Hertzian's AI technology, businesses are able to identify consistent issues affecting their customers, monitor the impact of their marketing material and lead data-driven product improvements.

UK AI tracking illegal gold mining in Colombia

UK Space Agency and Satellite Applications Catapult based at Harwell

The UK Space Agency is investing £3 million in a project that uses satellite technology and artificial intelligence to help detect illegal jungle gold miners in Colombia. Working with the Satellite Applications Catapult, a non-profit research company based at Harwell in Oxfordshire, the project will feed data pulled from a pair of European Union Sentinel-1 satellites into a computer algorithm that can automatically spot the characteristic patterns of deforestation that are linked to illegal gold mining. The project is one of 10 that will use space technology and satellite data to deliver innovative solutions to problems facing developing countries.

Using AI to verify identity

Onifido based in Covent Garden, London

Onifido uses a machine-learning system to compare facial biometrics of the user, which then gets cross-referenced against an identity document like a drivers licence. Once the users identity is verified and the document is checked for tampering the user is machine searched against global databases for any issues, this system operates over 132 countries.

GP at Hand

Babylon Health, London

Babylon Health technology allows users to have virtual consultations with a

GP via video messaging and text. By February 2018, their Fulham health centre partnership was providing about 2,000 10 minute video consultations a week, 30% outside normal 8am-8pm GP.