Section V: Private, Commercial, Non-profit Initiatives and Activities

Table of Contents

Chapter I:

AI Hubs and Think Tanks

Highlights

- Investments in UK tech companies by Silicon Valley investors has increased by 252% since 2011.
- London alone is home to over 187k tech companies with a combined turnover of £285 billion.
- Tech hubs in the UK are characterised by the presence of both well-established tech companies and corporations as well as a substantial quantity of tech start-ups.
- The UK tech company landscape clearly greatly benefits from the UK's strong academic and university system, and the fact that the UK is home to some of the most well-reputed universities globally.
- A machine learning-based index of regional innovation developed by the AI startup Data City in partnership with the Open Data Institute ranked several UK cities according to their level of AI industry development, with London coming out on top, with the southern cluster of Brighton, Aldershot, Worthing, Crawley and Slough coming in second.
- A recent report released by the Mayor of London's office revealed that London is home to more AI companies than any other UK or EU city.
- In March 2018 the Mayor of London made a public commitment to make the city a hub for AI industry development, outlining a roadmap including more than 20 initiatives to make that goal a reality.

12 UK AI Tech Hubs

1. Digital Catapult
2. Edinburgh Centre for Robotics
3. Future AI and Robotics for Space Hub (FAIR-SPACE)
4. Level39
5. Leverhulme Centre for the Future of Intelligence
6. National Centre for Nuclear Robotics
7. Plexal
8. Robotics and Artificial Intelligence for Nuclear (RAIN) Hub
9. St John' Innovation Center
10. TechCube
11. TechHub
12. TechUK

12 UK AI Think Tanks

1. Big innovation Centre
2. BIMA
3. CognitionX
4. Deep Knowledge Analytics
5. Future Advocacy
6. Institute for Public Policy Research
7. Nesta
8. Reform
9. Royal Society
10. Royal Society of Arts (RSA)
11. Society for the Study of Artificial Intelligence and Simulation of Behaviour
12. Tech Nation

The tech hubs in the UK

The UK – by in large – represents a tech hub that is increasingly attractive internationally. For example, investment deals from Silicon Valley into UK tech companies have increased by 252% since 2011. On top of this, despite concerns surrounding the controversial Brexit – a report from UK law firm Pennington Manches found that there had been a 62% increase in foreign investment into UK firms in 2017, a third of which were by North American investors.

According to a research from Studio Graphene in partnership with City Road Communications, in London there is 187,427 tech companies, with a combined turnover of £285 billion and hundreds of thousands of 'tech hub jobs'. London is the second most connected tech ecosystem globally, behind only Silicon Valley, and 25% of the world's entrepreneurs report a significant relationship with two or more others based in London. The capital has some of the most daring and groundbreaking tech companies at it's centre. Google's AI-centred DeepMind stands out as an example of this, with its HQ based in Kings Cross.

Edinburgh is home to a number of technology companies, specialising in different spaces as: Skyscanner, Ice Robotics, Rockstar North, Fanduel, Agenor Technology and Zonefox. As a whole, digital technology is Scotland's fastest growing sector, and in 2017 the country's capital was the fastest growing tech hub in the UK. A report from leading global developer community, Stack Overflow, found that Edinburgh's developer population grew by 8% in the second half of 2017, bringing the developer population to nearly 20,000 – or seven developers per 100 people in the labour force. Edinburgh was identified in the top five of the UK's most active tech and data innovation cities.

In Oxford teleheath companies, like Oxehealth, are aplenty and innovation, spurred in part by the University of Oxford and it's associations, is rife. The city has built a reputation as one of the leading tech hubs in the UK, with computing and health tech representing particularly strong sectors. One of the major success stories from Oxford – confirming the city as a tech hub – has to be the computer software company Sophos, which achieved the largest IPO for a UK software company in 2015, and now has more than 100 million users in 150 countries relying on its security solutions.

Source: https://www.information-age.com/biggest-tech-hubs-uk-right-business-123472568/

The tech hubs in the UK

According to the 2017 Tech Nation report, there are 30,219 people employed in technology jobs in Cambridge, and on average – between 2011 and 2015 – 353 startups were created in the city each year. Cambridge's tech sector is worth £2.4 billion, and is home to 1,500 tech businesses – Europe's largest technology cluster. According to the 2018 Tech Nation survey, 79% of the Cambridge tech community think the scale of tech businesses will expand in the next 12 months, while 84% believe the number of tech businesses will increase.

Manchester has a range of tech-led businesses and startups, but it's IoT community stands out from the other tech hubs in the UK. Manchester ranks the highest for startups that focus on IoT tech. This emphasis on IoT is reflected by Cisco's 2016 launch of an IoT innovation centre in Manchester, which looks at building smart city projects.

Bristol and Bath has a strong history with technology, specifically relating to aerospace and microchip design – and global businesses from these sectors are established here, such as XMOS and Cray. The region is now attracting a greater range of technology companies and startups. Robotics, in particular (in part spurred by the internationally recognised Bristol Robotics Laboratory), is a fast growing sector in the Bristol and Bath area. The region is also home to a number of tech hub events or meet-ups, including Techspark, High Tech Bristol and Bath, and Venturefest. Despite not having the largest employee-base, with only 26,999 tech jobs, digital tech business turnover is upwards of £7.9 billion in the area.

There is a clear trend here that defines a successful tech hub in the UK – the presence of renowned universities that attract world class talent, who can be cherry-picked by the technology companies located in the area. It is evident that there is a healthy mix of both established technology companies and an increasing number of tech start-ups across the tech hubs in the UK. The only thing holding back the continued growth of these tech hubs is the digital skills crisis currently facing Britain and the rest of the world. However, there is a strong emphasis from both public and private sectors to reverse this crisis and fill the roles of the increasing number of technology jobs available. Addressing diversity issues is critical in this fight, getting more girls interested and involved in STEM subjects at both school and university level.

Source: https://www.information-age.com/biggest-tech-hubs-uk-right-business-123472568/

London - UK's top innovation hub

An AI tool from Data City and the Open Data Institute has ranked the best clusters of cities for innovation across various technologies. It has identified London and its surrounding areas as the UK's top technology innovation hub, based on its work in driving technologies such as smart cities and advanced manufacturing.

AI startup Data City partnered with the Open Data Institute (ODI) to analyse information about the impact and location of universities and academic buildings, as well as the networking opportunities and business success stories to rank various places across the UK using machine learning.

The technology ranked cities and their regions overall across five industries: smart cities and mobility, clean growth, AI and data, advanced manufacturing and ageing society – four of which are the same as the government's Industrial Strategy. London scored a percentage of 20.9% for smart cities and mobility, 24.2% for clean growth, 27.1% for AI and data, 26.7% for advanced manufacturing and 31.2% for ageing society, sharing first place with Slough.

Birmingham and Coventry ranked second (12.2%) for smart cities, as well as for clean growth (6.4%), whilst the southern cluster of Brighton, Aldershot, Worthing, Crawley and Slough (6.9%) ranked second for AI & data. The group of Manchester, Preston, Wigan, Warrington, Blackburn and Burnley (7.1%) was second for advanced manufacturing, and Birmingham was also second (6.2%) for ageing society.

ODI CEO Jeni Tennison said that "This index can be used to inform policy makers, investors and businesses about innovation across the UK, showing where there are active tech communities in different sectors and where there are gaps. It also demonstrates how new sources of data can be brought together to cast a different light on innovation in the UK."

Source: https://www.computerweekly.com/news/252442820/Artificial-intelligence-names-London-as-UKs-top-innovation-hub

Khan transforming London

In March 2018 was announces that the Mayor of London, Sadiq Khan, has hired artificial intelligence (AI) research group CognitionX how to make the city a hub of AI development and how it can benefit the UK capital. Together Khan and the company will compile a report evaluating the opportunities for AI adoption and its deployment as well as attracting and retaining AI entrepreneurs and businesses to London.

The report from CognitionX will act as a guide to distinguish the opportunities for the city to invest and innovate. According to Khan, the UK capital is already in a good position in data economy and he wants CognitionX to develop a strong evidence base to shape London's policy for AI industry.

The report will also include an action plan from Khan, which will help in maximizing the impact of AI on London's economy, as well as including information on how a number of companies are already making use of AI. In addition, the report will assess opportunities for attracting entrepreneurs and businesses to London, analyse AI adoption barriers, map the AI supplier base of London, and compare the standing of London with other cities.

In February 2018, the government launched an Office for AI, in accordance with its plan to put AI, robotics and autonomous systems at the heart of the new Industrial Strategy. The Mayor is encouraging AI companies in the capital to participate in the London study, in a bid to shift the focus from sales and marketing in digital technologies under Industry 4.0 and create opportunities for qualified research, development and engineering professionals.

Sadiq Khan added:

"*London is in a strong position in the data economy and is already home to innovative, fast-growing companies like Deepmind, CityMapper and Satalia – not to mention the kind of work being done to improve public services, such as the data-driven approach to understanding rent arrears emerging through Hackney Council's partnership with Pivigo. London has a tremendous opportunity to build a world-class AI hub which serves a range of industries – from healthcare to finance to law – and which also helps build the AI-driven economy of the future in a way that works for all Londoners.*"

Source: https://www.cbronline.com/news/khan-transforms-london-to-ai-hub

Chapter II:

Research Institutes

Introduction

- The UK Government is working with industry and academia to bolster its AI industry, earmarking £45m to fund the launch of four new research hubs in Manchester, Birmingham, Surrey and Heriot-Watt universities.
- A review spearheaded by leading UK AI industry players and companies estimates that the manufacturing sector alone can unlock £450bn+ in the next decade and create thousands of new jobs through the successful adoption of AI, robotics and digitisation.
- The UK AI academic landscape is suffering a "brain drain" due to many AI experts leaving academic posts to take up industry positions that offer much more competitive salaries, with the number of AI jobs in Britain increasing by 485% since 2014.
- A 2017 report by the Royal Society echoed the notion that the UK is experiencing a dire skills shortage of AI experts.
- In order to combat these trends, the UK must actively work towards attracting world-class AI academics into its university systems, and possibly to offer subsidized tuition and scholarships and increased scholarships for AI MSc and PhD students.

10 UK AI Research Institutes

1. Ada Lovelace Institute
2. Artificial Intelligence Applications Institute
3. Centre for Intelligent Systems and their Applications
4. Earlham Institute
5. Future of Humanity Institute
6. Institute for Adaptive and Neural Computation
7. Institute of Perception, Action and Behaviour
8. Open Data Institute
9. Oxford Robotics Institute
10. The Alan Turing Institute

The UK Government investing in robotics and AI research hubs

In November 2017 the UK Government announced £84m of funding for artificial intelligence and robotics research aimed at improving safety in extreme environments such as the North Sea, nuclear energy production and space, and for smart energy innovation. Heriot-Watt has been chosen as one of four UK hubs.

The government is working with business and academia in order to encourage investment in robotics and artificial intelligence – a priority area of the Industrial Strategy. Almost £45m will be used to set up four new research hubs based at Manchester, Birmingham, Surrey and Heriot-Watt universities.

The centres of excellence, managed by the Engineering and Physical Sciences Research Council (EPSRC), will be responsible for developing robotic technology to enable safer working environments in space and deep mining and the hazardous and harsh environments of nuclear energy and off-shore wind.

As well as receiving government investment, the four hubs will be supported by £52m of industry support from commercial and international partners, and the UK Space Agency is co-funding the Surrey University hub.

The announcements follow the publication of the industry-led Made Smarter review, which predicted Britain's manufacturing sector could unlock more than £450bn over the next decade and create thousands of jobs if it successfully embraced digitisation, robotics and artificial intelligence.

The Minister also announced £16m for research into two new smart energy innovation competitions, which build on Government's ambition to fund over £2.5bn in clean technology innovation.

Source: http://futurescot.com/heriot-watt-robotics-hubs/

Brain drain at UK universities

British universities are being stripped of artificial intelligence experts in a brain drain to the private sector that is hampering research and disrupting teaching at some of the country's leading institutions. Scores of talented scientists have left or passed up university posts for salaries two to five times higher at major technology firms, where besides getting better pay, new recruits can take on real-world problems with computer power and datasets that academia cannot hope to provide.

Many top institutions are struggling to keep up with the demand from tech firms that are aggressively expanding their AI research groups. One university executive said AI researchers were courted by industry on a routine basis and that departments regularly missed out on the best talent when companies made better offers.

Universities exist, in part, to meet the needs of industry, but the fierce demand for skilled AI researchers is heavily outstripping supply. The number of AI jobs in Britain had soared 485% since 2014. It means there are more than two jobs for every qualified jobseeker.

A number of prominent AI researchers have moved to industry. In March, Zoubin Ghahramani, head of machine learning at Cambridge and one of the most respected AI researchers in the country, became chief scientist at Uber, the San Francisco-based ride-hailing firm. Neil Lawrence, professor of machine learning at Sheffield University, has moved his research group to Amazon in Cambridge. Murray Shanahan, professor of cognitive robotics at Imperial, along with Yee Whye Teh and Andrew Zisserman at Oxford, has taken a post at Google's DeepMind, which now runs AI courses at University College London and Oxford.

Maja Pantic, professor of affective and behavioural computing at Imperial, confirmed its findings:

"*We are losing the next generation of academics. A lot of people believe this is a phase that will pass. The majority of top people who leave academia move to Google, Facebook, Amazon and Apple. The real problem is these people are not dispersed through society. The intellect and expertise is concentrated in a small number of companies*."

Source: https://www.theguardian.com/science/2017/nov/02/big-tech-firms-google-ai-hiring-frenzy-brain-drain-uk-universities

Artificial Intelligence Research Centre

The UK government estimates that AI could add an incredible £630bn to the UK economy by 2035. But this stage also has risks and challenges, and how the UK chooses to respond to these will be pivotal in ensuring it remains a global leader in this crucial technology area.

Artificial Intelligence Research Centre was created to ensure the UK truly embraces the opportunities and accelerates innovation in AI. A hub for UK innovation in AI which will improve skills development within the AI and Machine Learning sectors, bringing together the best talent in this area to tackle real global challenges.

The centre, which will be based on the UCL campus in central London, is aligned to the Government's Industrial Strategy and its subsequent Sector Deal for AI. The centre will also further strengthen the longstanding partnership between Cisco and UCL.

The centre will become one of the largest AI centres around the world – housing between 200-250 people. This will include AI Master students and professors with the shared aim of making the world a better place by using AI to support efforts in healthcare, drug discovery and transport. To make the centre a reality, Cisco has committed to bring a range of technical expertise, resources, research, funding, and a support programme for start-ups.

In the last decade, Cisco has committed over $1.5bn in digital and innovation investments and projects in the UK. And as part of the announcement of AI Research Centre, it is committing further $100m to help accelerate digital innovation across the nation.

With PwC predicting that AI technology will contribute as much as $15.7 trillion – that's trillion – to the global economy by 2030, and Deloitte reporting that by 2020 almost 9 in 10 businesses will be making their own AI investments, the opportunity for the UK is immense and one it cannot be left behind on. The UK currently enjoys a position as one of the best countries in the world in which to develop artificial intelligence, but it is fundamental to not take this for granted.

Source: https://gblogs.cisco.com/uki/introducing-uk-artificial-intelligence-research-centre/?doing_wp_cron=1538211677.6354069709777832031250

Skills shortage in AI

In 2017 the Royal Society has warned that the UK's position at the forefront of cutting-edge artificial intelligence (AI) technology is under threat due to a "substantial skill shortage".

The UK has played a key role in fostering many notable AI and machine learning companies, including DeepMind, the start-up purchased by Google in 2014.

As it considers its future approach to immigration policy, the UK must ensure that research and innovation systems continue to be able to access the skills they need. The UK's approach to immigration should support the UK's aim to be one of the best places in the world to research and innovate, and machine learning is an area of opportunity in support of this aim.

Universities and other institutions should give "urgent attention" to attracting and retaining world-class machine learning academic talent, in order to train the next generation of researchers. Because of the substantial skills shortage in this area, near-term funding should be made available so that the capacity to train UK PhD students in machine learning is able to increase with the level of demand for candidates of a sufficiently high quality.

A separate study conducted by Whitehouse advisors found that AI posed a threat to almost half of all jobs within the next 10 to 20 years, as machines increasingly replace human roles in industries including delivery, manufacturing and traditionally low-skilled occupations.

A report by PwC found that men are more likely to lose their jobs to robots and forms of AI than woman. Around 35 per cent of jobs carried out by men were classified as being at potentially high risk from automation in the next 15 years, compared to 26 per cent of women's jobs. This equates to around 6.3m men and 4.1m women, PwC said.

Source: https://inews.co.uk/news/technology/uks-artificial-intelligence-lead-threat-warns-royal-society/

Chapter III:

Trends in Technology Development

Key Highlights

- UK sectors that are most aggressively adopting and implementing AI-based systems and solutions include the financial services, energy and utilities sectors.

- The digital tech industry grew by 4.5% throughout 2016-2017 compared to only 1.7% growth in overall UK GDP, showing it to be a fast-growing sector. The rapid recent growth in the UK tech industry underlies its ambition to become a global leader in digital tech.

- The UK is third globally for total capital raised by digital tech companies behind the US and China, with UK digital tech companies having raised £4.5 billion in venture capital financing in 2016-2017.

- UK Prime Minister Theresa May announced in a 2018 World Economic Forum speech the launch of a new Institute of Coding backed by £20 million in Government funding, which will be matched by industry participants, in order strengthen the efforts of Government and Industry to grow their digital tech industry.

- AI was a prominent theme in May's speech, where she also announced the launch of a national advisory body for AI, which will advise on initiatives and measured required to develop data-driven tech in a safe and ethical manner. May also announced that the UK will be joining a new AI Council established by the World Economic Forum.

Top technology trends

The 2017 annual survey for Civil Servants said civil servants were the least excited for social media technology. The 2017 survey vocalised that civil servants are most looking forward to advancements in mobile workings, data analytics, Cloud, and personalisation in 2018.

AI is currently being implemented in several sectors, including the financial services sector and the energy and utilities sector. Twenty five percent of banking leaders say they are “embracing intelligence" to help them decide where to invest, who to lend money to and which companies to fund. Banks who implement artificial intelligence can expect potential savings between 20 and 25 percent across IT operations.

AI has already made and is predicted to make some major advancements within the energy and utilities sector. AI algorithms used in an Amsterdam car sharing company’s project helped cut the company energy bill by calculating the most efficient time to charge their cars. This energy saving boosted profits by seven percent, with the AI technology weighing decisive factors such as weather, periods of cheaper energy and the holidays to conserve energy.

The brainpower of AI technology is also predicted to make an appearance in the home, as wireless washing machines and home heating systems will “learn” to mold to what the homeowner wants, in turn optimising energy use and reducing waste by finishing these tasks at night. AI is also making more regular appearances within the energy and utilities sector, at power plants in particular. Self-regulating and repairing turbines will incorporate artificial intelligence to consciously reduce emissions, optimise usage and enhance their own performance.

According to a LACE Survey, aside from AI and Brexit, Bots and Blockchain were at the forefront the innovative minds in attendance at the UNLEASH event in early 2018. An example of a popular internet bot is a web crawler, which analyses and files information from web services at high speed. Blockchain also received an honorable mention as an up and coming technology that most of the public sector seem to be excited about. Blockchain has introduced the digital opportunities to reduce missed transactions, avoid human and machine errors, and ensure the validity of an online transaction.

Source: https://www.brightlemon.com/blogs/top-tech-trends-2018

UK tech expanding faster than the rest of the economy

The growth of the tech sector underlines the UK's ambition to be the best place in the world to start or build a digital tech business. According to Tech Nation's 2018 report, Tech is expanding 2.6 times faster than the rest of the UK economy. The digital tech sector is worth nearly £184 billion to UK economy, up from £170 billion in 2016.

Turnover of digital tech companies grew by 4.5% between 2016-17 compared to UK GDP which grew by 1.7% over the same period. This means that the tech sector grew at 2.6 times faster than the rest of the economy. At the same time the number of jobs in digital tech rose at five times the rate of the rest of the economy, demonstrating how the digital tech sector is one of the best performing sectors in the UK economy.

2017 was a strong year for the UK digital tech sector with some of biggest fundraising and exits seen in years, as international investors came in their hoards to fund UK-based firms. Indeed, British digital tech companies raised £4.5 billion in venture capital investment during the year. Some of the UK's fastest growing tech companies include; Improbable, Deliveroo, Farfetch, TransferWise, Funding Circle, Revolut, The Hut, Skyscanner, Fanduel, Oxford Nanopore, Benevolent.AI and Darktrace.

According to data from Startup Genome, a third of London's businesses have foreign customers, surpassing the 30% of Silicon Valley companies that have overseas customers. The UK is also recognised as the third in the world for total capital invested in digital tech companies, behind the US and China. London is the second most connected tech ecosystem globally, behind only Silicon Valley, and 25% of the world's entrepreneurs report a significant relationship with two or more others based in London.

There is a growing trend of informal tech meet-ups across the UK, where emerging technologies are being discussed. Artificial intelligence is becoming more important, and of the top 400 UK tech meetups with the largest membership, nearly 16% of them are related to AI. Analysis of data has revealed that particular cities are quickly developing specialisms for different emerging technologies. For example, blockchain is an emerging specialism in Manchester, where there were 151 meet-ups with nearly 62,000 members.

Source: https://www.information-age.com/tech-nation-2018-report-uk-tech-faster-economy-123471982/

Top 10 trends of UK executives

A survey from LACE Partners performed in 2018 has marked out some of the key boardroom trends. LACE's researchers polled 250 people – over half of whom were in senior leadership roles – about workplace trends, with six of the top 10 being identified in the tech field. Foremost among all of them was artificial intelligence.

The top trend was mentioned by nearly 26% of people. AI is currently being deployed in a transformative manner across multiple industries, including banking – where it is helping lighten the regulatory burden on financial institutions – and in the energy and utilities sector, which is leveraging the technology to improve efficiency and power management.

AI was also joined by a host of other digital trends in the top ten. These included blockchain, robotics, automation, bots and data and analytics. They were joined by non-digital trends of Brexit and wellbeing or wellness, at just over 5% each.

The survey also demonstrated a seismic shift in the way people are using other visual technologies both at home and at work. In 2017 LACE found that only 12% of their sample had been using virtual reality (VR), although with VR headset sales expected to approach 200 million units by 2022, that figure increased substantially to 76% in 2018. On top of this, 49% of people said they had used augmented reality both at work and at home, while 15% had used mixed reality, largely in a work place context.

While it is often discussed in terms of the future of the entertainment sector, augmented reality (AR) is now becoming an everyday part of many people's working lives. This is particularly the case for those working in engineering, as AR allows for better learning than ever before, based on the principle that the human mind processes technical information presented in a 3D format faster and more efficiently than having to translate it from a 2D perspective. Likewise, VR is becoming a mainstay of many professional training programmes, including a growing number of A&E doctors who have prepared for surgery using VR systems, before having to undertake the real-life version.

Source: https://www.consultancy.uk/news/17852/technology-dominates-the-top-ten-trends-of-uk-executives

The UK's Artificial Intelligence Future

At the World Economic Forum (WEF) in Davos, UK Prime Minster, Theresa May delivered a confident speech on the advancement of technology innovation and its potential to boost the UK economy. The Prime Minister began her speech by highlighting that "harnessing the power of technology is not just in all our interest, but it's fundamental to the advancement of humanity."

AI was a consistent theme throughout the Prime Minister's speech. May announced that the UK will commit to the establishment of a world-first national advisory body for AI – the Centre for Data Ethics and Innovation (CDEI). The centre has already been allocated £9 million by the UK Government and will advise on measures needed to ensure safe and ethical uses of data-driven technologies. Furthermore, she announced that the UK will be joining the World Economic Forum's new council on AI which will safeguard the future of development in AI and robotics.

The Prime Minister mentioned that there has been a new AI start-up created in the UK every week for the last three years. There is clear demand for AI, and start-ups are seizing this opportunity. As AI continues to permeate business industries, our societal understanding must improve. A few ways to do this is to focus on boosting digital skills and continuing to nurture the talent pool of individuals who will develop future AI technologies.

To further boost digital skills, The Prime Minster also announced the establishment of the UK's first Institute of Coding (IoC) which will receive a £20 million investment from the Government. This investment will be matched by a further £20 million from industry, including in-kind contributions such as training and equipment. The forum will help to forge stronger relationships between the Government, industry, businesses and universities to equip people with the digital skills they need.

The Prime Minister's speech at Davos 2018 will certainly reassure businesses that the UK can indeed remain a leader in the global digital economy. Ending on a positive note, May made it clear to the audience that the risks and challenges the country faces "do not" outweigh the opportunities.

Source: https://blog.equinix.com/blog/2018/02/06/davos-2018-the-uks-artificial-intelligence-future/

Chapter IV:

Trends in Investments

Key Highlights

- By far the largest investment-related development to occur in the UK AI industry is the Government's £1 billion deal to thrust the nation to the forefront of the global AI race, a deal which includes £300 million new private sector investment.

- This deal builds on the Government commitment first laid out in its Industrial Strategy and its AI Grand Challenge.

- The deal is fist the first step in the UK's mission to seize the £232 billion GDP growth (10% of current UK GDP) that the Government believes can be achieved through its AI industry by 2030.

- The deal includes funds to train 8,000 new computer science educators, to pay for the tuition of 1,000 AI PhDs by 2025, to establish a Turing Fellowship programme seeking to attract and retain the best international AI talent to the UK, as well as £20 million to assist UK service industries (including pilot programs to identify how AI can enhance their operations), and £21 million to create Tech Nation, a mid-stage AI company incubator.

- Aside from the AI Sector Deal, investments into UK AI companies have been increasing to record highs for a number of years.

- 758 AI companies specialising on over 30 distinct industries are located in London, which is double the total of Paris and Berlin combined, a combined turnover of £285 billion and with investments raised by London's AI companies having grown by more than 50 per cent in 2017, reaching over £200m.

- Investments in UK tech companies by Silicon Valley investors has increased by 252% since 2011.

UK Government investments initiatives

Meanwhile, in the UK, the government has set aside nearly £1bn – including more than £300m in public funding – to boost the country's AI sector in an 'AI Sector Deal', part of the government's Industrial Strategy.

This public funding could be used to train 1,000 AI PhDs, a Turing Fellowship programme and 8,000 new computer science teachers (to fulfil an aim of providing every secondary school with a qualified GCSE teacher). This investment in training could soften fears that advances in AI will put many British citizens out of work, affecting low-skilled workers most drastically and requiring many digitally skilled workers to fill entirely new roles.

Other UK investments in AI include the establishment of a European HQ for Global Brain based in the UK, a new £10m AI supercomputer based at the University of Cambridge – which will be available for industrial use – as well as European HQs of Global Brain and Chrysalix in the UK, and a set of data science research projects run by the Alan Turing Institute and Rolls-Royce.

"The UK must be at the forefront of emerging technologies, pushing boundaries and harnessing innovation to change people's lives for the better," said Matt Hancock, Secretary of State for Digital, Culture, Media and Sport.

"[AI] 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 [...] 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."

Source: https://eandt.theiet.org/content/articles/2018/04/eu-and-uk-lay-out-major-investments-in-ai/

Findings by Deloitte

A new survey has revealed that 85 per cent of senior executives plan to invest in artificial intelligence (AI) and the Internet of Things (IoT) by 2020.

A new study from Deloitte has examined the opinions of 51 executives from the UK's most influential companies and public sector entities – worth a combined market value of £229 billion – regarding the implementation of AI in their businesses. The findings of Deloitte's Digital Disruption Index showed that 85% of the leaders responsible for digital technologies intend to invest in AI by the turn of the decade.

The top priority for investment among executives has been cyber-security, following a troubling year that has seen top organisations including the NHS and Deloitte hit by high-profile cyber-attacks. 78% of respondents have already invested in upgraded defences, while a further 13% are investing immediately in that aspect of business. Similar numbers are currently prioritising cloud, although AI is fast becoming the next major frontier for UK executive spending.

These findings come from Deloitte's new Digital Disruption Index which aims to track to track investment in digital technologies to create a detailed picture of their impact on large and influential businesses and public sector bodies. The firm's first edition of the index gathered responses from 51 organisations that together possess a combined market value of £229 billion.

More than half of the organisations surveyed expect to invest over £10 million in digital technologies such as AI, cloud, robotics, analytics, blockchain, the IoT and virtual and augmented reality. Across these technologies, seventy three per cent said they plan to invest in robotics, 63 per cent will invest in augmented and virtual reality, 62 per cent will invest in wearables, 54 per cent will invest in biometrics and 43 per cent will invest in blockchain.

Source: https://www.itproportal.com/news/ai-and-iot-set-to-be-major-investment-trends-in-2018/
https://www.consultancy.uk/news/14930/almost-nine-in-ten-uk-businesses-to-invest-in-ai-by-2020

Tech sector backs British AI industry with multi million pound investment

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.

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 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.

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 £21 million 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.

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.

Source: https://www.gov.uk/government/news/tech-sector-backs-british-ai-industry-with-multi-million-pound-investment--2