
Digital Vision for Digital Britain

UK&I opinion paper



Trusted partner for your **Digital Journey**

Atos



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Digital Vision for Digital Britain



Adrian Gregory,
Atos Senior Executive Vice President and CEO, UK & Ireland

Digital transformation is integral to the UK's social and economic future. Technological innovation is a centrepiece of the Government's Industrial Strategy to increase the prosperity of people throughout the UK through investment in skills, industries, and infrastructure.

New connected technologies, AI, and machine learning, quite simply, transform what is possible. They offer new ways to meet society's most pressing challenges, such as increasing productivity and economic opportunity, supporting an ageing population, and ensuring clean growth. Navigating the digital landscape to achieve these goals demands the ability to respond to complex interdependencies; and in launching its Innovation Strategy, the Government has recently further underlined the critical importance of partnership to meet shared challenges, not just here but internationally.

Strong digital leadership and close partnerships between the public and private sectors are critical to delivering for UK plc. We need to share ideas and invest in collaboration - not just to deliver new solutions, but to progress public understanding and debate about the positive role of digital technologies in our modern world.

Atos is a long-established and significant partner to Government and a global leader in digital transformation across all industry sectors. This paper sets out how we can help the effective design and delivery of services for organisations in the public and private sectors, as they respond to a new era of opportunity and change in the UK. My team and I look forward to working with customers and partners to support and enable technological, social and economic progress for all.

A digital economy that works for everyone



Kulveer Ranger,
Senior Vice President, Strategy & Communications,
Atos UK & Ireland

The pace of technological change, it is said, has never been so fast – nor will it ever be so slow again. That is a stunning prospect. We are on the brink of a new digital era, with technology as a connector and enabler in all aspects of our lives, and a driving force for our economy and country.

The evolution in the application of technologies such as artificial intelligence, automation, data analytics and the Internet of Things is beginning to transform and make everyday life easier. Yet it also brings vital opportunities to make life better. Technology can be a great leveller – it can transcend cultural, geographical and organisational boundaries; and data is beginning to be harnessed and distributed to power progress. A key challenge is how to ensure that individuals, organisations and institutions can use these technologies to address the challenges that matter to people most: health, social mobility, employment and education.

Atos is committed to working in partnership to help realise Government's objective of making the UK a world-leading digital economy that works for everyone. We support and enable total transformation, across industry and the public sector, not only to ensure that organisations have adaptable, future-fit digital operations, but also cultures of shared purpose. Innovation is by nature intensely collaborative. By working together with customers and partner, and with digital leaders and policymakers, we want to help ensure the benefits of the technological revolution are shared by everyone in society.





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Tech for good isn't a nice-to-have, a beneficial byproduct of the fourth industrial revolution. This is the revolution. So we need to work with new technologies, to maximise its awesome potential...

The Rt Hon. Jeremy Wright MP, Secretary of State for the Department for Digital, Culture, Media and Sport, Doteveryone's Responsible Tech Conference, January 2019



”

A digital Britain

50 connected devices

Number the average UK household will contain by 2023¹

1,100 employees

The number employed in the UK in the digital health sector²

'AI pioneer of the year'

National Business Awards 2018 shortlisted Atos as 'AI pioneer of the year'

7 in 10 commuters

The number of commuters that use a smartphone on their journey³

¹ SmartMeters: Unlocking the future, UK Government, December 2018, www.gov.uk/government/publications/smart-meters-unlocking-the-future/smart-meters-unlocking-the-future

² Bioscience and health technology sector statistics 2018, UK Government, May 2019, www.gov.uk/government/statistics/bioscience-and-health-technology-sector-statistics-2018

³ Communications Market Report, Ofcom, 2018 www.ofcom.org.uk/_data/assets/pdf_file/0022/117256/CMR-2018-narrative-report.pdf



87% own or have access to a smartphone

With 95% accessing it everyday⁴

£6.3 billion of venture capital investment

The amount of UK investment - more than any other European country⁵

£184 billion

The amount the digital tech sector is worth to the UK economy⁶

5.2% of high growth tech scale-up investment

The global percentage the UK attracted in 2018⁷

⁴ Mobile Consumer Survey: The UK Cut, Deloitte, 2018 www2.deloitte.com/uk/en/pages/technology-media-and-telecommunications/articles/mobile-consumer-survey.html

⁵ Tech Nation Report 2019 www.technation.io/report2019/#introduction

⁶ Tech Nation Report 2019 www.technation.io/report2019/#introduction

⁷ Tech Nation Report 2019 www.technation.io/report2019/#11-scaleup-investment

Working better together

It is no secret that, in a post-Brexit Britain, a strong partnership between business and government will be vital in supporting firms of all sizes across the nation, as well as in ensuring the consistent delivery of our public services. Public and private sector, working in conjunction with each other, will be key in maintaining the UK's competitiveness and future prosperity for many years to come.

In partnership with the CBI

In mid-2018, the Confederation of British Industry (CBI) took steps to enable a more open and constructive dialogue between the UK Government and business by setting up the new Public Sector Partners Council (PSPC), which I have had the privilege to Chair. The Council is a standing committee of the CBI, acting as a steering body for its work relating to the delivery of public services and infrastructure in partnership with industry and exploring avenues for how the public and private sector can work better together.

This work is even more important in a context in which these partnerships are under increased scrutiny, with the ability of the private sector to operate in support of public services and infrastructure being questioned at a time when business investment and innovation are needed more than ever. The value of this work needs to be examined and demonstrated in a transparent way if the UK public sector is to meet the significant challenges it faces, such as rapid technological change and how to harness new, disruptive technologies such as AI (Artificial Intelligence) and IoT (Internet of Things).

Innovation and social value

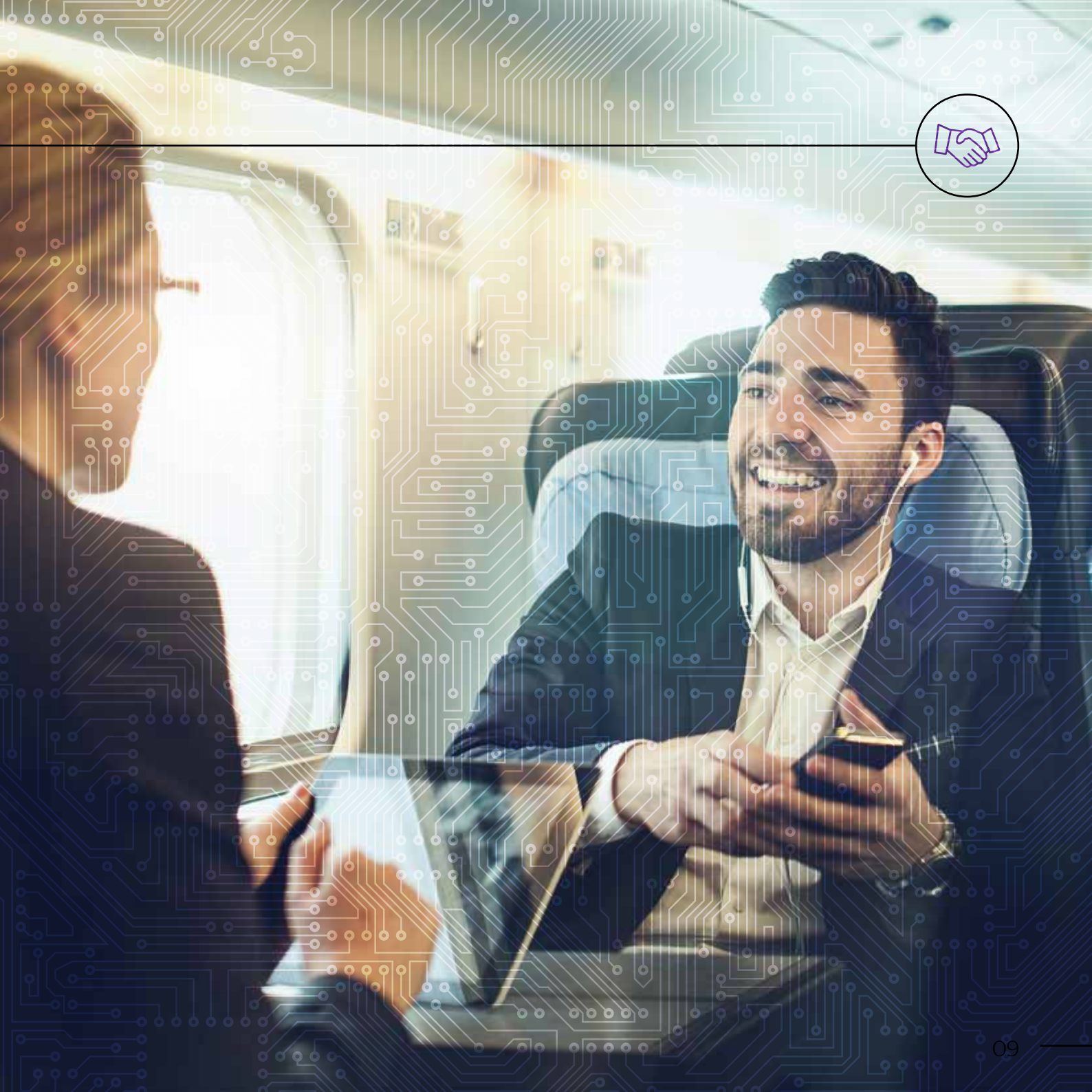
The PSPC is wholeheartedly committed to improving trust between government and business in order to support greater investment and innovation in our public services, embedding social value in government contracts and ensuring that the balance of risk between public and private partnerships is appropriate. We have made this case in regular, constructive engagements with the Cabinet Office, which enabled us to introduce concrete examples of how businesses have succeeded in providing excellent value and innovation to the public sector.

The announcement by the Cabinet Office of a new Government Technology Innovation Strategy was a further positive sign of the Government's commitment to innovation and social value. The PSPC is again collaborating closely with the Cabinet Office and Government Digital Service (GDS) on this work to ensure that the wealth of ideas reaching the CBI from across the business community forms part of this new strategy and ultimately helps consolidate a positive environment for joint work between the public and private sector for years to come.

Creating a pathway to delivery

The Council also sees its role in supporting SMEs across the United Kingdom in the public marketplace as vitally important to ensuring a prosperous future for this country, both as direct suppliers to government and as part of larger supply chains, creating a pathway to the delivery of the UK's 3% GDP target for R&D. The innovative ideas offered by SMEs will allow for greater adoption of digital technology in the public sector, beginning their total transformation journey whilst driving value for money in the delivery of public services.

The private sector makes a significant contribution to improving the everyday lives of citizens by supporting frontline services in the health sector, providing innovative solutions in our transport system, meeting our energy needs and more. By working better together, industry and government can help maintain trust in public sector partnerships with the private sector and make them work better for all concerned.



Innovation for the nation

Technology is becoming truly ubiquitous: it is the backbone of people's daily lives, transforming and underpinning how we work, engage with friends and family, manage our health, finances, shop, travel – in fact, everything!

According to research by Ofcom, nine in ten people had internet access at home in 2018.¹ Smartphone ownership continues to rise, with 87% of respondents to research by Deloitte in 2018 claiming to own or have access to one and 95% of those using it every day.² While this technological progress is substantial, it must also be something in which every single person feels they have a stake.

Different segments of our society benefit from technology in different ways

7 in 10 commuters use a smartphone on their journey⁵

Lower-income households and over-54s are less likely to have smartphones, laptops and tablets, but are as likely to have a TV⁴

58% of UK households own a tablet and
44% of UK adults own a games console³

One in every five pounds spent in UK shops is now online⁶

48% of people use fingerprint recognition to authorise payments and purchases⁷

In 2018, **22 million** people managed their current account on their phone, and it is predicted that by 2023, **35 million** people – that's 72% of the UK adult population – will bank via a phone app⁸

Diverse online society

Statistics reveal a sliding scale between the most switched-on among the online population, and those who are not yet getting the same opportunities. There is the generation of online natives – those who have grown up working, banking, socialising, gaming via digital platforms and know nothing else – and those who are still catching up.

So, how can organisations work together to ensure that the technological revolution brings benefits to everyone?

Those of us in the tech industry must stay conscious of the checks and balances required to ensure online innovation does not service an ever-smaller group of people. The value of this innovation needs to be felt and shared by a diverse online society. Let's, as an industry, work to ensure that the technological advances we deliver are reaching all

social-economic levels of society. This is about more than widening access through broadband: while this is certainly a key component of online inclusion, it's really only base camp in the journey to an inclusive connected society. Connectivity gives people access to an online world full of new opportunity and services – this world need not be daunting, confusing, or inaccessible.

Connected citizen ecosystem

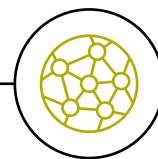
While there is significant focus on specific technologies such as automation, artificial intelligence and blockchain, to name but a few, as the game-changers of our time, for most people these technologies will operate in the background. In the foreground, we will see our society being shaped by the Internet of Things, connecting devices and services into an increasingly seamless and efficient citizen digital ecosystem.

¹ Communications Market Report, Ofcom, 2018
² Mobile Consumer Survey: The UK Cut, Deloitte, 2018

³ Communications Market Report, Ofcom, 2018
⁴ Communications Market Report, Ofcom, 2018

⁵ Communications Market Report, Ofcom, 2018
⁶ Office for National Statistics, Retail Sales Index, 2019

⁷ Mobile Consumer Survey: The UK Cut, Deloitte, 2018
⁸ www.caci.co.uk



Across that ecosystem will be clustered an ever-increasing number of devices and volume of data that will deliver everyday services, interactions and experiences. Our work, mobility, banking, health and wellbeing will all be linked through our own powerful online ecosystem, coalescing and evolving around us as individual citizens. To ensure this ecosystem exists for everyone requires close collaboration between the organisations who design and deliver technological innovation and those who design and deliver services in both public and private sectors.

The next stage: online and digital society

We have an idea about where we are heading, but society needs more than just technology to get us there. We need our politicians to ensure that they engage with the connected world so that they can steward the right advances for the benefit of citizens. We need a switched-on political class who understands and can provide the momentum and governance to realise these opportunities. We also need more cross-sector partnership. The Government's Digital Strategy has already set

out its approach to ensuring that people can participate fully in the digital economy and are prepared for technological change. Building on this, the Digital Skills Innovation Fund is just one example of how public sector bodies, employers and training providers can work together to address local or regional digital challenges while supporting people from underrepresented groups and disadvantaged backgrounds into digital roles.

In recent years, we have seen law-makers catching up with the full power and effects of digital platforms. The recent Online Harms White Paper is an attempt from the UK Government to set the course for regulating the internet, but policy making that seeks to control and manage will not be the solution that enables and drives innovation. There is a new dawn breaking. We are on the cusp of another leap in connectivity that will further redesign all aspects of our lives. We must work together, across sectors and with regulators and policymakers, to stay alive to its full potential and deliver that potential in a way that is positive for all.



Total transformation in action

Given today's rapid technological change and the advance of digital technologies into everyday life, there are huge opportunities for innovative new companies to challenge incumbents across every sector. Customers and citizens want fast, easy, convenient, round-the-clock services - and digital start-ups are ripping up the rule book to give them what they want. So, how can more traditional organisations compete?

For any incumbent in any sector, standing still is simply not an option. In the private sector, organisations need to fight for wallet share and work hard to retain the loyalty of increasingly demanding customers. In the public sector, there are huge pressures to meet demand for digital public services that are comparable with the best of the commercial sector. Across the board, organisations are still looking for efficiencies in middle and back-office operations. And every organisation knows it needs to be ready for whatever new technologies are on the horizon.

In response to these challenges, Atos' Total Transformation service takes on a customer's operations and implements fast-paced transformation. It is designed to optimise operational excellence and customer experience by radical digital transformation that makes an organisation both more profitable and fit for growth.

Our people: our expertise comes from them

Atos' 3,500-strong Total Transformation team have all built up their process knowledge working very closely with customers. As a result, they bring unrivalled know-how and a commitment to help steer our customers in a direction that means through partnership we generate and both achieve new business value.

Our digital story: technology is our foundation

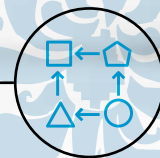
We deploy technologies and digital tools (including data analytics and automation) to give our customers scalable, flexible and modern IT architectures and business infrastructures. This enables them to achieve business-wide Total Transformation that is fit for the future and an organisation that is agile and always evolving.

And it's ultimately about delivering results

We listen hard and then deliver better business performance for our customers that is measured in revenue, customer satisfaction, commercial effectiveness and brand reputation.

Total transformation broken down sees us focussing on:





And here's how we do it

1. We work with our customers to reinvent their business – delivering capacity for growth and reducing the cost to serve.
2. We share risk with our customers, to minimise the level of investment needed by them.
3. We invest jointly to grow and innovate, giving our customers the peace of mind of working with Atos as a low-risk, financially stable partner.
4. We deliver truly end-to-end solutions, to ensure that the benefits of Total Transformation can be maximised.
5. We deliver through a long-term partnership at the most senior levels, based on joint commitment, mutual trust and aligned objectives.
6. We deliver excellence by focusing on customer experience (CX) and have a unique and holistic CX practice, which comes at no extra cost.
7. We drive value out of the organisation's data.
8. Our digital transformation capabilities are combined with deep industry expertise, depending on each customer's business.
9. Innovation is at our core, with continuous improvement built in.
10. We live our values: honesty, transparency, accountability, integrity and trust.



A new data revolution: the citizen hub

Today, anyone with a smartphone has access to computing power that, until recently, would only have been available to the largest enterprises; terabytes of personal data are stored on people's devices, within web applications and in organisations' databases. Yet as individuals, we have very limited ability to own, manage and benefit from all the data that is held about us.

As the UK enters the Fourth Industrial Revolution (4IR), technological advances are accelerating and converging to create new opportunities to truly transform the way public and private sector organisations work. At the same time, we've reached a point at which citizens are more aware - and more concerned - than ever before about the security of their personal data and how it is being used.

Given these developments, is it time for a rethink of how public sector bodies store, process and manage personal information while giving more control over data to citizens?

Citizen hub

Thanks to 4IR technologies such as cloud computing and blockchain, it is possible to turn the way information is managed on its head. Instead of organisations storing and updating people's data, each individual could be responsible for their own personal data and choose exactly who can access it.

Imagine a personal 'citizen hub' that allows citizens to hold and validate their own personal information: their name, address, contact details, date of birth, employment status, bank details, professional qualifications, utility service providers and so on. This data can be stored in the manner of the citizen's choice and accessed via any channel they chose. What's more, information driven by data such as eligibility for winter fuel allowance, a resident's parking permit or enrolment with the local GP etc could be shared with service providers without them having to hold and process vast amounts of personal data.

These hubs would operate on two central principles: to ensure all data stored was accurate to an agreed standard and to only ever act in the interests of the individual owning the data. Just like banks, these hubs would be highly secured, regulated organisations.

Empowering the citizen

Let's look at how one citizen's interactions with a range of organisations could be transformed with a citizen hub.

This citizen has moved to a new house and wants to register with a doctor. Her citizen hub offers her a choice of surgeries; she chooses one and is automatically enrolled because her name, date of birth and address are pre-validated. She can book her first appointment immediately and the surgery has no need to collect, process or store any data.

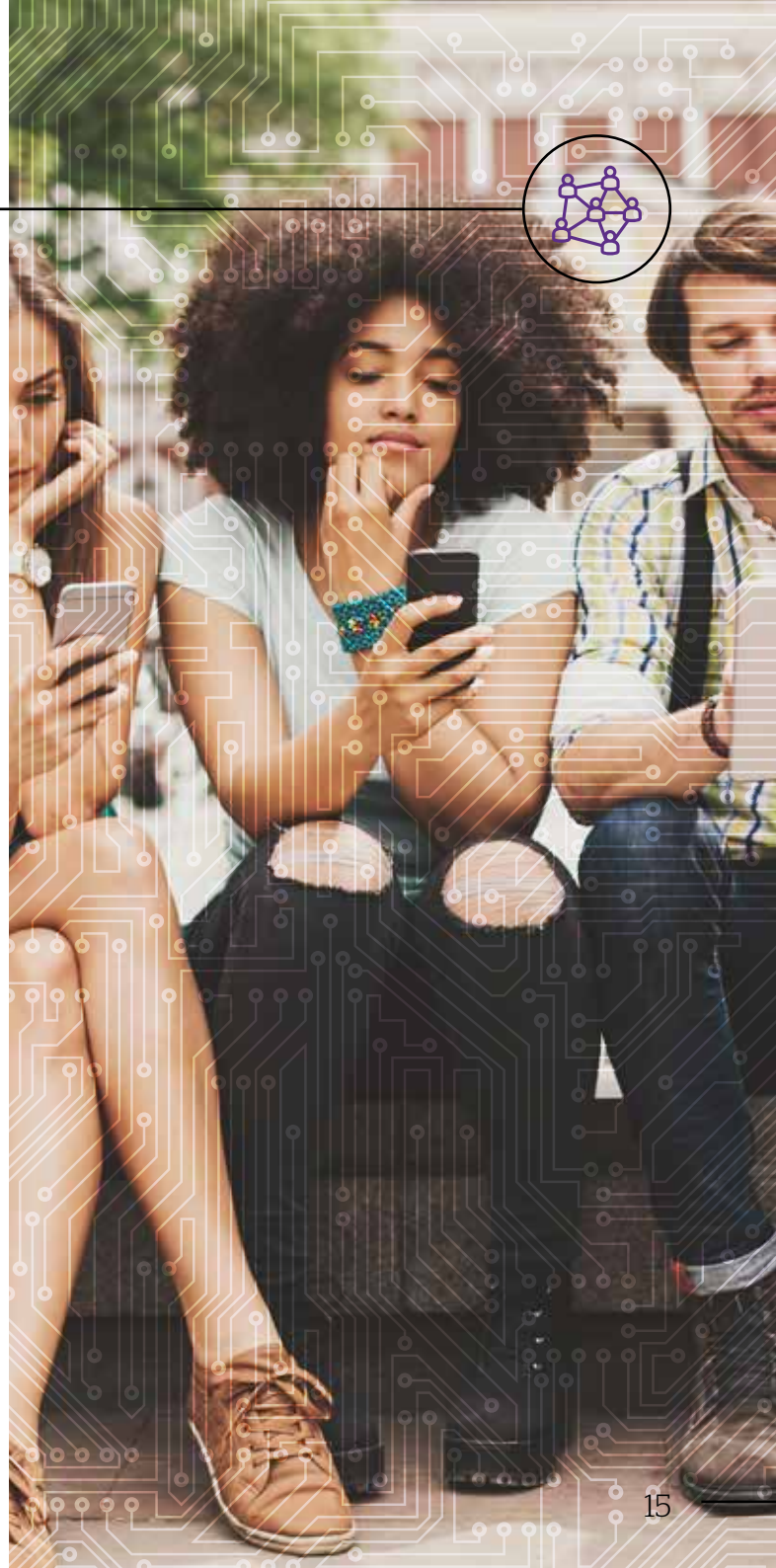
The same citizen now wants to buy a parking permit from her local council. While her citizen hub knows her address, it doesn't store details about her car. She uploads those to get her parking permit while also paying her road tax.

One month later, this citizen's bank changes its interest rates and an alternative utility provider cuts its prices. In both cases, her citizen hub automatically switches to the most advantageous service provider. Six months later, she is admitted to hospital for knee surgery. Full records of the procedure and associated treatments are passed for secure storage to her citizen hub.

Making it happen

With any number of starting points for trialling citizen hubs - for students as they start university, for newly expectant mothers, or for local authority residents - the technologies to implement them already exist. This means that many of the challenges of making citizen hubs a reality are more organisational and cultural, with the need for an 'end-to-end' look at how data is governed and the interfaces between different providers. Such challenges are by no means insurmountable; in online retail, for example, we are seeing early prototypes emerge as buyers are increasingly able to buy goods from online retailers using their existing Amazon-validated payment details.

As the Fourth Industrial Revolution gathers pace, here in the UK, we must remember the lessons of the past: the most innovative and fast-moving nations will be rewarded; those who fall behind could feel the consequences for a long time to come. In public services, use of digital technologies has, so far, tended towards efficiency gains and service improvements rather than radical transformation. In contrast, finding a way to fundamentally shift the power to citizens to store, validate and control their own data would be a digital revolution.



Accelerating digital adoption to improve the nation's health

While recent decades have seen multiple initiatives to expand the use of technology and digital applications in the NHS, Government has acknowledged in its strategy paper, *The Future of Healthcare*, that 'the state of online services, basic IT and clinical tools in healthcare is far behind where it needs to be'.¹

Analysis by health regulator the Care Quality Commission indicates that take-up of digital services in the UK correlates with better quality ratings among secondary care providers. However, where you live - which CCG serves you and which GP practice and NHS Trust you use - still dictate whether you receive a digitally enabled or a more traditional service. Based on the NHS' own data, digital maturity varies by more than a factor of three between the best and worst performing NHS Trusts. Levelling out these variations without suffocating innovation should be a priority.

So how can technology be adopted more quickly and widely by the NHS to improve patient care?

Key areas for focus

A recent report by the Social Market Foundation and supported by Atos explores how technology could be adopted more quickly and widely by the NHS to improve the care that patients receive and to drive better health outcomes. The report sought to answer the following questions:

- Which technologies could help prevent illnesses and promote good health outside of the traditional NHS services?
- What future steps can be taken through digital technology to improve health outcomes and the patient experience in primary and secondary care?
- How could these improvements manifest themselves across the patient journey or care pathway?

The report tracks the patient journey, from prevention and diagnosis in the community, into primary and secondary care, through into management of long-term conditions. In describing the patient journey, the report charts some evidence of slow and varied take-up of digital technologies in healthcare. In addition, as well as improving the care experience in primary and secondary care, the report argues that there are huge opportunities to use technology to reduce the burden on the NHS.

Widening the scope

It's easy to see how healthcare's 'digital offer' could be expanded for people who are already digitally enabled. For instance, with four in five UK consumers now owning smartphones, recent data from the Office of National Statistics shows that in the last decade there has been a significant increase in the proportion of individuals using the internet for health-related activities, increasing from 24% to 54%.

This could be further widened to harder-to-reach groups by, for instance, social prescribing of digital skills development for people with long-term conditions and the prescribing of devices and wearables, where there is a clear health need, for people who can't afford to buy them.

Supporting broader health and wellbeing

There are equally important opportunities outside the NHS to use technology to reduce the need for people to come into physical contact with healthcare services. For example:

- Utilising everyday wearable technologies to predict and diagnose disease, for instance to detect diabetes and hypertension
- Expanding use of apps to help patients with long-term conditions to self-manage, with remote monitoring and testing.

Clearly, there is huge potential for improving all aspects of health and wellbeing through better use of technology. Digital is a vital enabler for addressing central commitments in the NHS Long-term Plan, including more joined-up, coordinated care and more proactive, targeted services. Research by the Nuffield Trust has noted a consensus that healthcare around the world is at least a decade behind other industries in its use of information technology.² It's time to accelerate healthcare's technological revolution.

Read the Social Market Foundation report supported by Atos, *National Health Servers: Delivering Digital Health for All* to learn more atos.net/digital-technology-healthcare-research-report

¹ NHS, Policy paper: The future of healthcare: our vision for digital, data and technology in health and care (2016)

² Candace Imison, Sophie Castle-Clarke, Robert Watson and Nigel Edwards, Delivering the benefits of digital health care (2016)



Sowing the seeds for our digital future

For the farming and food industry, the digital revolution is well underway amidst wider significant change. Over the next decade, we will see important changes to policies that govern the sector as environmental shifts bring fresh challenges in how animals are reared, crops are grown and fish are caught, and at a time when global demand is increasing.

Just as it always has done, this industry will adapt and innovate to meet complex demands. What is unprecedented, however, is the power of technology in our ever more connected world.

- New digital tools can help meet rising demand for high-quality produce with verifiable sustainability and biosecurity.
- As the effects of climate change become clear, geospatial technology can predict floods and droughts so that farmers can better prepare.
- Using analytics and capturing more data about animals and their environment will deliver gains for farms right across the board, from better productivity and animal health to higher work satisfaction and more effective environmental management.

Transforming farming across the world

Atos is participating in projects around the world, helping to convert our expertise in total transformation into tangible outcomes for farmers, consumers and the environment.

- **Optimising crop yields and farming practices.** Satellite imagery can provide biophysical indicators of plant development, such as chlorophyll or the proportion of green foliage. This data can be minutely analysed, with detection of any anomalies or discrepancies within and between plots of land; with other farm data, data scientists can provide diagnostics and suggest ways to optimise farming practices.
- **Maintaining biodiversity.** Together with animal-tracking technology, earth observation data (such as earth temperature, atmosphere, surface, height and so on) can be analysed using powerful analytics technologies to identify particular parameters and explain the movement of terrestrial and marine wildlife. Building such a complete real-time picture assists in preserving species under threat.

- **Fighting viral diseases.** The Pirbright Institute is a global leader in this field and uses world-class high performance computing to continue advancing its research. This means that results and insights can be delivered much faster to aid the development of diagnostic tools, vaccines and treatments. In turn, scientists and policy-makers can reduce the impact of viral disease and improve quality of life for animals and humans.
- **Fostering trust from farm to fork.** Blockchain enables farmers and others along the supply chain to share data, facilitate instant payments and trace food production from farm to fork. Blockchain's potential goes beyond food standards and traceability. When it comes to insurance, for example, it is ideal for farmers who want to easily report incidents and receive payments quickly and for insurers who want to minimise the costs of processing claims.

Innovation and collaboration

Digital transformation will continue to make important contributions to empowering farmers and other stakeholders to increase productivity and profitability, protect the environment and improve animal and plant health. Innovation is essential, as is collaboration between government, agriculture and other partners to address some of today's most pressing and important environmental and societal challenges.

Read Atos' *Digital Vision for Farming* opinion paper to learn more atos.net/dvffarming



Unleashing the nation's entrepreneurial potential

Enterprise is the heart and soul of a successful economy. Whether it is a start-up incubator in Brixton, a fledgling exporter in Dundee or an advanced manufacturer in Nottingham, enterprise takes place in every sector, at every hour of every day, across our country.

Rapid changes in digital technology have helped make it easier than ever to set up and develop a business:

- Super-fast broadband connectivity, the widespread adoption of smartphones and new platforms such as eBay, YouTube and Alibaba have changed the way that entrepreneurs and businesses market, invest, hire and sell
- New technologies such as artificial intelligence, machine learning, blockchain and the Internet of Things are continuing to transform every sector of the economy
- Digital technologies have transformed the jobs market, with changes in the working model enabling more people at different stages in their careers to consider either starting their own enterprise or joining an SME.

Yet, while we should proudly talk up the UK's entrepreneurial appetite, it is also clear that the country isn't currently meeting its full potential:

- There are many reasons why people choose not to take the leap to start a new business. The most cited reason for those surveyed for this report, showed that fear of failure and financial risk are challenges which, for many, are difficult to overcome.
- 1 in 4 people surveyed cited a lack of information on how and where to begin as a barrier. Despite living in the 'Information Age', businesses overwhelmingly access advice face to face and tend to use consultants or accountants as their primary source of advice. This raises the opportunity to provide information in new and innovative ways using digital technology.

- As part of its Digital Strategy, the Government identified four digital activities that it thinks are critical to business competitiveness - maintaining a web presence, selling online, using the cloud and digitising back-office functions. Yet only 19% of UK businesses have used software solutions to integrate processes such as customer services, human resources and accounting¹.



Businesses in the UK spent £11.55bn on digital advertising in 2017. This was over 14% higher than in 2016, with smartphone advertising driving almost all the growth



Recent survey evidence suggests that over 84% of firms think digital and IT skills are more important to their business than two years ago



Businesses in the non-financial sector made e-commerce sales of £511bn in 2016, up from £503bn in 2015

¹ Eurostat, isoc_bde15dip, 2017, appso.eurostat.ec.europa.eu/nui/submitViewTableAction.do



Enterprise account

Atos commissioned a report, *The Great British Enterprise Opportunity*, looking at what can be done to improve access to and provision of information, advice and guidance to make it easier for people to start and grow their businesses.

- The report calls for the creation of an Enterprise Account, similar to the pensions dashboard currently being developed by the Government. This digital platform would help provide easy to access information for people up and down the country.
- The Enterprise Account could contain everything from how to register a business, book-keeping services and tax liabilities, to how to access specific funds, as well as specialist mentor and training schemes.

Barriers to growth – both for individuals looking to start their own business, and small businesses looking to expand – are very real. Using digital technologies to help reduce complexity in how people access information, advice and funds to start and grow their own business will ensure that Britain retains its entrepreneurial zeal.

Read the WPI report supported by Atos, *The Great British Enterprise Opportunity* to learn more atos.net/great-british-enterprise-report



A new digital account to unlock the UK's enterprise potential

Britain is one of the start-up centres of the world. A recent report found that the UK is in the top five countries in the world for fostering entrepreneurial talent.

The rise of automation and the 'gig economy' is already shaking up the traditional jobs market and as people's career paths and work patterns inevitably change, so do approaches to starting new businesses.

People are becoming entrepreneurs at different stages in their lives and to fit in with changing life circumstances. As there is a difference between starting a new business in your twenties and in your fifties, so there is a difference in entrepreneurial potential in different parts of the country.

Realising UK potential

So could we be doing more to ensure that the UK fulfils its entrepreneurial potential?

- Digital platforms could provide a game-changing complement to traditional forms of business support
- Following on from our first two reports, The Great British Enterprise Opportunity and The Great British Enterprise Challenge, Atos has developed the concept of an Enterprise Account, a digital platform that aggregates and personalises information, advice and guidance for budding entrepreneurs and growing small and micro businesses
- This would be a one-stop-shop for financing options, mentoring schemes, training opportunities and any other information that can help British entrepreneurs thrive. Some suggestions for what services an Enterprise Account could provide are as follows:
 - Companies House services
 - HMRC services and alerts
 - Accountancy services and tools
 - Company performance information and dashboards
 - Signposting to business finance options
 - Access to mentoring and enterprise programmes
 - Access to government support schemes
 - Signposting to training
 - Business news and alerts

There is a clear rationale for Enterprise Accounts and some key places to start for the services that they could provide.

Fulfilling potential across the UK

The next phase of our thinking is to consider how this looks across the UK. Different regions are embracing innovative new ways to promote entrepreneurship but what can other areas do to fulfil their own entrepreneurial potential?

Quality infrastructure is vital for entrepreneurs to flourish. This can be physical – such as good quality transport links – or digital – such as high-speed broadband or mobile connectivity.

Access to talent is important. Local schools and colleges need to ensure that young people have the digital skills they need to succeed while parents of young children can be encouraged to return to work and explore new employment opportunities.

Entrepreneurial potential is different in different places with some areas better equipped and resourced than others. This entrepreneurial potential can be affected by a number of different factors and indicators of diversity, such as race, ethnicity, age, gender and how they are represented in the local community.

The extent to which different places are able to fulfil that potential is key to understanding why entrepreneurs start their businesses in a particular area and why some areas are more entrepreneurial than others. For example, there is a clear distinction between the entrepreneur who has to set up a business out of necessity to earn money and someone who is running a lifestyle business.



By analysing currently available information and discussing with people from around the UK we hope to understand more why different areas of the country are better at encouraging entrepreneurship and are better able to fulfil their entrepreneurial potential. This is hugely important if the whole UK is going to benefit from more people starting their own businesses and how the Enterprise Account can support this activity.

Read the WPI report supported by Atos, *The Great British Enterprise Challenge* to learn more atos.net/great-british-enterprise-challenge



Reshaping the financial services landscape

For banks, insurers, FinTechs and technology incubators, today's rate of technological and regulatory change is unprecedented. The FinTech phenomenon has shaken up the financial services sector at every level, challenging conventional thinking. With companies looking for new ways to create value, success is about optimising processes while delivering better customer experiences and engagement.

- As consumers, we have more choice, information and control than ever before. With open banking, which allows individuals to share their finances with multiple financial providers and apps, we will have faster and better everyday tools; insurers too are harnessing data to offer more value.
- The arrival of GDPR and new open banking regulations are challenging financial services institutions and bringing major opportunities to reshape the services that touch all our lives.
- Financial services companies must embrace real-time analytics, robotic process automation, artificial intelligence and the Internet of Things. This is not just about more efficient processing; it is fundamental business transformation to create essential improvement in business agility.
- With the global megatrends of increased competition and changing ownership of financial infrastructures, new players and incumbents have to adapt faster and deeper to win and keep profitable market share.

Investing to deliver total transformation

Atos is investing in the financial services sector as a partner to banks, insurers, FinTechs and technology incubators, helping them to find new ways to create and deliver value through total transformation.

- **Harnessing AI to improve performance.** Ulster Bank has completed the world's first full-scale implementation of the first-ever comprehensive Customer Relationship Management (CRM) AI platform in financial services. Now the Bank has far better insights that enable front-line staff to make real-time decisions that are better for the Bank and its customers. The result? Increased sales revenue for Ulster Bank, accompanied by higher customer satisfaction.
- **Data-driven insurance companies.** Insurance companies are using data and analytics to deliver more targeted flexible products

while minimising their own portfolio risk and reducing the cost of re-insuring. Data and analytics are also deployed to remove friction from tedious and repetitive administrative work, in combination with artificial intelligence and robotic process automation.

- **Optimising financial services to compete.** Given the rapid advances in technology, together with the new Payment Services Directive (PSD2) and the Government support for FinTechs in the UK, the future looks bright for new players. So how can more traditional institutions compete and meet changing customer expectations? The answer is total transformation: this enables businesses to become leaner, agile, future-proofed digital operations while continuously enhancing the experience of their customers.
- **Embracing open banking.** As regulations change, the ability to engage and add value to consumers is no longer just the preserve of banks; it will be shared with FinTechs, digital companies, retailers and other innovators. PSD2 is also the prelude to ongoing disruption as regulators liberate other parts of banking into the market. Institutions are acting not just to embrace PSD2, but to be ready for future directives.

In this newly disrupted space, very different types of organisation must strive to achieve the same things: the ability constantly to flex and change, deliver new, innovative, and outstanding customer experiences, as well as operate efficiently and leverage vast amounts of data for differentiation and growth. Yet there are also specific challenges for incumbents who must achieve more agility and innovation or find their customer base gradually eroded. On the other side of the coin, smaller FinTechs need to innovate at scale, comply with regulation and above all, find markets and partners to realise their full potential.

Read the full *Digital Vision for Financial Services* paper to learn more atos.net/digital-vision-programme/digital-vision-financial-services



A digital vision for Brexit

The Brexit debate has not exactly been noted for its freshness, innovation, embrace of new ideas and enthusiasm for breakthrough technologies. Indeed, opponents of one camp's support for digital approaches to resolving the notorious Northern Ireland backstop have taken to labelling that as "magical thinking". So how could there be a digital vision for Brexit?

Could AI, big data, apps and social media really help transform an issue which humans seem incapable of agreeing upon? The short answer is yes. Brexit, whether hard, soft, delayed, abandoned or permanent, raises challenges and obstacles which digital approaches are uniquely well placed to resolve. Let's look at just three.

21st century democracy

In or out of the EU, it is very clear that the public have a declining level of trust in their elected representatives to come up with practical and relevant solutions to urgent problems. In particular, they increasingly believe that decision-making is too remote in Westminster, let alone in Brussels. In the 1780s, the (originally four month) gap between the election and inauguration of a US President was determined by a calculation of how long it would take someone living in the furthest part of the original 13 states to ride day and night to the nation's capital in order to take up office (and residency) there. Today, we are surely nearing the end of the era when democracy means a single vote every few years to send someone else a long distance to meet other similar individuals in one place and take decisions for everyone else. Instead, digital approaches will hold more sway: just as our phones and tablets now keep us more informed and more up to date about events, so they will permit much more voting by app, decision-making on phones, and the empowering of people's panels in multiple population centres, large and small. The smart campaigner and aspirant decision-maker will embrace, not resist, this fundamental change in the traditional top-down model of politics. Perhaps the wisdom of the cloud will become as important as the wisdom of the crowd.

Future world growth

The second big challenge thrown down by Brexit is the undisputed (for once!) prediction, originally produced by the European Commission, that 90% of future world growth is expected to take place outside the EU. Some will argue that this makes it imperative for European countries

to stick ever closer together for mutual protection; others that there will be great benefits for those who build markets outside Europe. Either way, the evolution of economics is shifting our societies every year further away from reliance upon the production of heavy, metallic items or perishable goods such as food where the laws of physics and chemistry make markets which are geographically close inevitably the most important, the so-called "gravity" model of trade. Instead, advanced economies are increasingly transforming themselves into "cloud-based" entities, where what is traded are ideas, cultural concepts, and products of intellect – and where it is no more difficult or expensive to find and service a market which is thousands of miles away than one which is just down the road. In this emerging world, digital approaches – to find commonalities, to embrace and benefit from differences, to focus on what individual human beings want wherever they live and whatever they believe – are directly relevant to exploring, developing and succeeding in new markets. Just as a digital vision should move political decision-making ever closer to the individual citizen, so it can help make export markets viable ever further away from home.

Tackling divisions in society

The final building block in a digital vision for Brexit is the need to use every tool available to us, including the latest and most sophisticated, to tackle the fundamental divisions in society which recent debates have exposed and often worsened. The digital contribution to mapping, literally, this problem should not be under-estimated: it is from the advanced manipulation of data that research has revealed, in stark clarity, that most Britons, whether Remainers or Leavers, largely or entirely only know others of the same "tribe" and live in mutually incomprehending ignorance of the experiences and attitudes of millions of their fellow citizens. No wonder stereotypes of "the other", those who voted a different way in the referendum, abound so much in Brexit Britain.

A very positive use of digital approaches would be to use the insights and information which a much more connected populace provides not to divide us further into silos, not to use newsfeeds and targeted advertising to reinforce pre-existing prejudices and biases, but instead to promote genuine understanding and to heal, rather than deepen, divides. Tim Berners-Lee and other web pioneers three decades ago had a bold and uplifting vision of using the internet to bring humanity together. That may now seem dated or even naïve, but it is surely still not too much to hope, and indeed expect, that the brightest minds – both from homo sapiens and from AI – should be set to work to find solutions to bring people together, not to make money or hay from driving them ever further apart. Let a digital vision be used to find those things which unite, inspire and entrance not just 52%, or 48%, but the whole of British society. Pre, post, or beyond Brexit, a more united nation is a goal worth pursuing by everyone and everything, including the smartest technologies and analyses available.

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Could we? Should we? Evolving the ethics of AI

We are at a critical time in the advancement of Artificial Intelligence (AI). While its potential is still being understood, what we do know is that AI will shape human progress in every field, from health and social change, to the environment and defence.

Balance of power

The sheer power of this technology is also its key challenge: the future of AI is not just about what we *can* do with it, but what we *should* do with it, and about who will control its power. Given the pace and scale of innovation, the debate about the ethics of AI is one of the most interesting and urgent in the public domain. If the UK is to fully realise the social and economic benefits of AI, there are a range of important legal and social questions that now need to be addressed.

Current public perceptions of AI are, at best, mixed. Shaped to a large extent by concerns about the effects of automation on jobs, much of the fear about AI stems from the unknown. Algorithms, for many, equate to the dark arts. What's more, public opinion about AI versus the collective potential benefit from AI is not always aligned: applying AI in clinical research and healthcare, for example, may not be popular at this point, but it could save many lives.

Setting the frameworks

In recognition of AI's many benefits, the Government has already taken steps to ensure the UK is best positioned to take advantage. The Government published the AI Sector Deal worth £1 billion in April 2018 with the aim of creating a blueprint for how to prepare UK businesses and citizens for AI. This strategy is bearing fruit. Research by the Mayor of London has found that London is ahead of New York, Paris and Berlin as the preferred location for AI companies to do business.

Yet for organisations, the policy and legal frameworks for applying AI have yet to be developed; as a result, technology leaders and data scientists are, in the main, setting their own boundaries. It is now time for a coherent public debate to create an evolving set of rules and principles for the use of AI. This debate needs to be informed by AI leaders and experts, with the involvement of politicians, regulators and policymakers. In this way we can establish the policy frameworks and new public bodies to then work in tandem with those who will design and deliver the tools and technologies that will shape our future world.

Progressing the conversation

This debate needs to be in combination with greater public awareness and education. Uninformed fear of AI may stifle innovation across the public and private sectors; and everyone in society must be given the opportunity to explore what the future of AI will mean. Concerns and fears must be heard and addressed, with promulgation of the positive role that machine learning and AI can play in delivering changes that people across our society really want.

As we move from the 'pioneering' to the 'application' era of AI, there is a need to explore how to make lives better through AI and ensure that the advantages it creates are shared across different demographics, sectors and organisations. If the UK gets this right, we will have a framework not just for deriving wide-ranging benefits for our society and our economy, but also for helping to lead and shape AI as a force for good across the world.

Read the full *Digital Vision for AI* paper to learn more atos.net/dvfai





Accelerating the UK's digital journey: Atos and Google Cloud

Artificial Intelligence (AI) is permeating our lives, from facilitating the most ordinary everyday interactions to pushing the outer edges of human achievement in all sorts of domains.

Broadly speaking, AI generates value from data in three ways: perception (processing speech, images and text); cognition; and recommending or making decisions or actions. When deployed appropriately, this value has huge potential, from higher levels of productivity and job satisfaction for workers to better health and quality of life for citizens. According to government research, AI offers the UK economy opportunities worth 10% of GDP by 2030.¹

Critical along the UK's digital journey is the ability for different organisations to learn from and apply their data to drive up performance and better engage citizens and customers. To achieve this, public and private sector organisations must move beyond their traditional IT landscapes to become truly data-driven organisations. This requires transformation, with increased data management, data lakes, analytics and cognitive technologies, as well as secure solutions that protect data against cyber risks.

In response to these challenges, Atos has formed a global partnership with Google Cloud. By combining Atos' technological and integration expertise with Google Cloud technology, the objective is to enable fast and smooth adoption of AI by organisations.

Key features of the partnership:

- By leveraging Google's machine learning capabilities, Atos is creating industry-specific solutions across multiple sectors, all delivered via both companies' advanced hybrid cloud services
- The partnership's hybrid cloud services combine Atos' privately hosted cloud services with Google as Atos' preferred public cloud provider
- Atos is developing a cloud-based suite of collaboration tools to further transform and automate the digital workplace and enhance user experience and productivity.

All this means that Atos can offer organisations a fast and frictionless way to use Google Cloud technologies alongside their existing assets and processes, while leveraging data to create new insights and value in compliance with European and global regulations.

Making artificial intelligence real

As part of the partnership and to accelerate organisations' AI journeys, Atos has opened three world-leading AI Innovation Labs. Each lab is about making AI real and accessible to businesses while generating robust, repeatable end-to-end AI solutions.

The inaugural lab opened in October 2018, with London as the chosen location given the city's distinct blend of cultural, academic, commercial and geographical advantages. This lab is complimented complement two other Labs: one now open in Paris and the other in Dallas, Texas.

London's AI Innovation Lab brings together AI expertise alongside specific sector knowledge and is available to public and private sector organisations across Europe. Customers can start with a question or an idea and leave with an early prototype design and AI roadmap. At the Lab, there are creative and inspiring work programmes for teams to discover, design and then define their own organisation's AI journey.

Wider investments

More widely, Atos is working with organisations across sectors to implement AI solutions that address key business priorities, from enhancing customer experience to increasing productivity. We were, for example, shortlisted in the 'AI pioneer of the year' category at the 2018 National Business Awards for work with Ulster Bank; this delivered the world's first full-scale implementation in financial services of the first-ever comprehensive Customer Relationship Management AI platform.

Elsewhere, Atos' investment in AI has been further extended with the launch of our breakthrough AI engine to transform users' experience of IT service desks by automatically answering requests more efficiently and accurately.

For more on the challenges and opportunities of AI, Atos' *Digital Vision for AI* paper explores the realities of AI and what's ahead. While the benefits of enterprise AI are still emerging, it is clear that these technologies have a critical role to play in helping organisations across the UK to achieve their most important goals.

¹ Artificial Intelligence Sector Deal, April 2018

Being future-fit: why inward employee investment is now crucial

As organisations in every sector become increasingly digitalised, leaders must develop strategies to make sure their workforces have the necessary skills and support to adjust.

With the speed of technological change, significant challenges lie in anticipating and planning for the jobs of the future. Organisations need multi-skilled employees who are adaptable and ready to learn. Also, with increasing use of technologies such as artificial intelligence, robotic process automation and data analytics, a broader set of digital skills and capabilities is required. Employees themselves, however, may feel disconnected from their organisation's expectations, or may not have the space to upskill 'on-the-job'. Add in specific skills shortages in areas such as cyber security and data science and the challenge becomes more acute.

Atos' Future Fit programme

As a digital services company, Atos must continue transforming and evolving our organisation to meet the needs of customers – not just today but tomorrow. That's why, in 2017, we launched our Future Fit transformation programme to ensure that we have the right mix of skills and capabilities to keep driving digital transformation in every sector. The focus of Future Fit is to future-proof careers with Atos, with more internal hiring to expand our skills base while enabling long-term retention of employees and knowledge.

The Career Development Centre (CDC) is a pivotal part of the UK&I Future Fit programme and offers a pro-active matching service to employees. With support from Workforce Management and Learning & Development our UK&I Recruitment Team works closely with our people to support them in developing their internal career through new upskilling and reskilling opportunities across the business. Career Support is also on hand to provide guidance on a range of topics including CV writing, interview techniques along with access to a suite of career coaching.

Wider benefits

For any organisation, actively reskilling the existing workforce for redeployment within the company clearly demonstrates continued commitment to employees. And there are significant benefits from lower restructuring costs, lower recruitment costs, speedier hiring and role fulfilment, enhanced employee engagement and satisfaction, and increased employee retention and loyalty. Inward investment through reskilling also brings savings to the wider economy, and ultimately the taxpayer.

By taking a market-driven, highly responsive and predictive approach to skills identification and employee support, Atos is, critically, forging even closer connections between our employees and our markets both now, and for the future.

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Inward investment through reskilling also brings savings to the wider economy, and ultimately the taxpayer.

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We are Atos: employee recognition at the heart of ethical business practices

We are Atos showcases our people's passions, the activities of our diversity networks, our gatherings and conferences, key people-focused policy initiatives, the numerous charity challenges, celebrations, and many other fantastic activities that are undertaken by our employees.

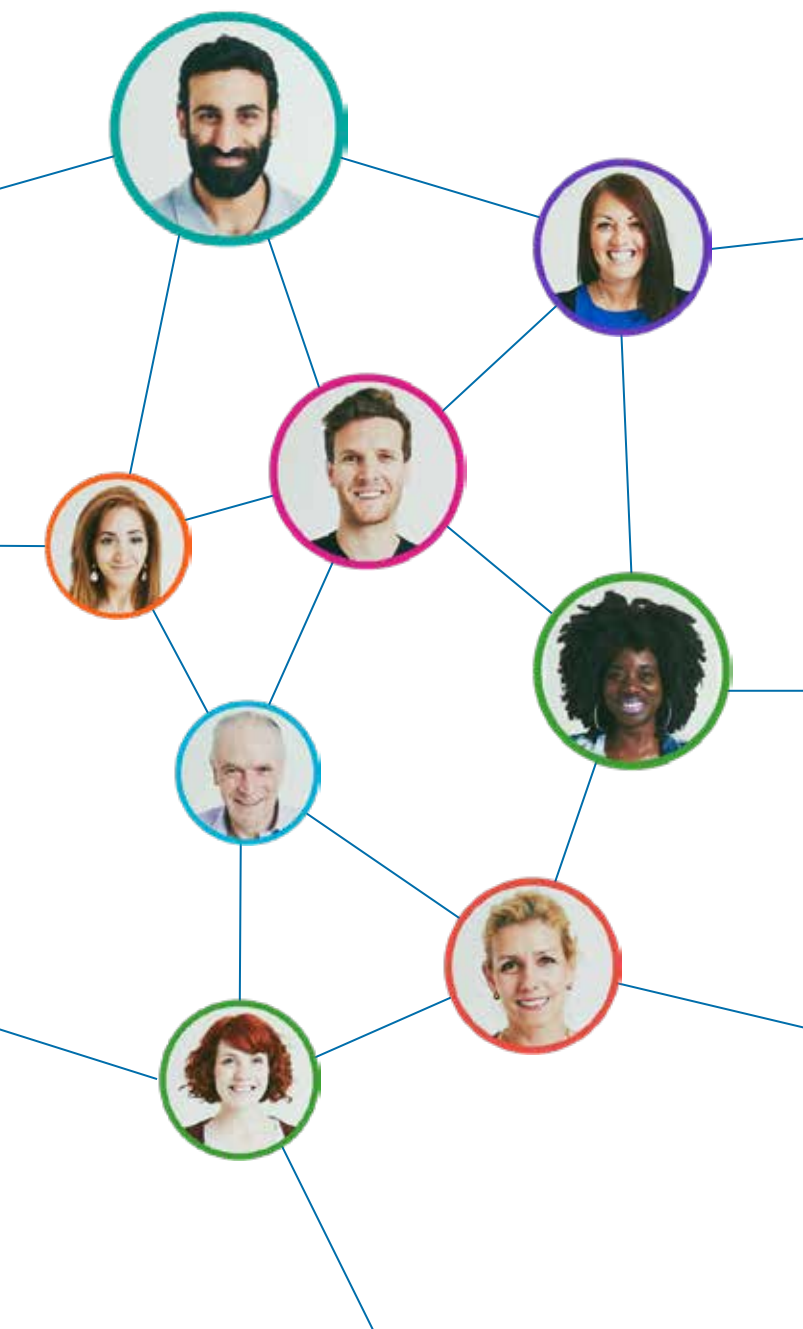
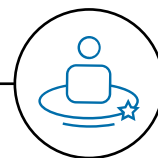
Learn more at atos.net/weareatos



Diversity networks

Atos' employees currently run six diversity networks:

- **Aeon** is a generational diversity network set up to make sure that employees of different age groups are supported and listened to, striving to create an inclusive workspace based on mutual respect, understanding and appreciation of what different generations have to offer.
- **Adapt** is committed to enabling employees with short or long-term, physical or mental health conditions to have a rewarding and productive career at Atos. It looks to remove barriers for disabled staff using our workplace adjustment programme, and also supports parents and carers to balance work and life responsibilities.
- **Atos Armed Forces Network** recognises the brave and selfless work of employees who are reservist or veteran members of the Armed Forces. It entails a robust mobilisation policy to support reservists preparing to train and deploy, as well as providing spouses of active service personnel with flexibility to balance work and home life.
- **AtosAspire** is determined to get gender on the agenda. This involves attracting, recruiting and developing a high-performing workforce where those of all genders are able to fulfil their career aspirations.
- **AtosPride** understands that people perform better when they can be themselves. Atos is recognised as a Stonewall Champion and utilises the Workplace Equality Index benchmarking tool to assess its progress on LGBT+ inclusion.
- **Together Network** recognises the value of a multicultural workforce and welcomes the diverse skills, talents and experiences it brings. By building a collaborative community, the Together Network helps empower staff to celebrate who they are and perform with confidence.



Doing the right thing

We believe in doing the right thing for the right reasons: whether that is meeting our legal obligations or finding new ways to publicly and actively support our employees and suppliers. Our ambitions and commitments include:

- **Public Services Pledge:** it articulates the behaviours we seek to embody in the services we deliver to users and citizens on behalf of the UK Government. We have reflected the specific challenges for successful delivery of public services today, committing to be a trusted, reliable and flexible partner, to deliver value for money, to lead to inspire the best from our relationships, and to invest in the UK, its people and the environment.
- **Gender Diversity Ambitions:** we are committed to closing our gender pay gap and working actively to improve gender diversity within our industry. Our gender diversity ambitions, described in detail in our Gender Pay Gap report, involve investing in and fostering an environment in which women can thrive. This entails taking steps to ensure that we have a pipeline of female talent and that women in Atos are provided with opportunities and support to progress and pursue a successful career with us.
- **SME Harbour:** we support small and medium enterprises by providing them with access to business opportunities through Atos' diverse client base. Our SME Harbour, comprising a wide ecosystem of SMEs and start-ups, enables small enterprises to commercialise their propositions while helping drive innovation and business value for our clients. Our specialist resources, readily available to our SME partners, include a cutting-edge Innovation Lab and collaboration spaces in central London and across the UK and Ireland. We have also signed up to the UK Government's Prompt Payment Code - helping expedite payment to our partners.
- **Our voice in industry:** Atos is a member of a variety of trade associations and industry bodies, which together represent a vast share of the UK economy. Our memberships comprise forums dedicated to business services, SMEs, business ethics and public sector engagement - among many other areas of interest. As an active voice in such industry-wide networks, we aim to improve cross-sector collaboration and advocate for digital transformation as a driver of better, more streamlined services for businesses and citizens.

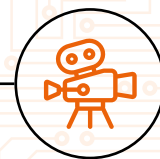


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About Atos

Atos is a global leader in digital transformation with over 110,000 employees in 73 countries and annual revenue of over € 11 billion.

European number one in Cloud, Cybersecurity and High-Performance Computing, the Group provides end-to-end Orchestrated Hybrid Cloud, Big Data, Business Applications and Digital Workplace solutions. The group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and operates under the brands Atos, Atos Syntel, and Unify. Atos is a SE (Societas Europaea), listed on the CAC40 Paris stock index.

The purpose of Atos is to help design the future of the information technology space. Its expertise and services support the development of knowledge, education as well as multicultural and pluralistic approaches to research that contribute to scientific and technological excellence. Across the world, the group enables its customers, employees and collaborators, and members of societies at large to live, work and develop sustainably and confidently in the information technology space.

Find out more about us

atos.net

atos.net/dvfdb

Let's start a discussion together



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