FAST FORWARD

techUK 2020 Budget Representation
About techUK

techUK represents the companies and technologies that are defining today the world that we will live in tomorrow.

The tech industry is creating jobs and growth across the UK. More than 850 companies are members of techUK. Collectively they employ more than 700,000 people, about half of all tech sector jobs in the UK.

These companies range from leading FTSE 100 companies to new innovative start-ups. The majority of our members are small and medium sized businesses.
Dear Chancellor of the Exchequer,

The UK is seen as a world leader in technology, innovation, and research and development. A combination of a world leading university sector, excellent connections to finance, and a strong business environment has allowed the UK to become an established world leader in tech.

Countries around the world are engaged in a race to build the best economy for tech, with rivals thinking strategically and acting quickly to build the skills and resources to be at the forefront of the digital revolution.

The tech sector has been the UK’s modern success story and we want to see this story continue throughout this decade and into the next. We believe maintaining the UK’s lead is not only important, but essential, to the government achieving its objectives.

The Government has three broad priorities for the next five years: returning the UK to historic growth rates of around 2.0%, levelling up the UK economy by ensuring new infrastructure and productivity-boosting tech reaches all parts of the UK, and preparing the country to address the climate emergency.

The tech sector can play a unique role in meeting these priorities. Unlike other sectors, tech clusters and hubs can build and scale quickly, delivering fast returns on investments, as well as embedding the innovative and entrepreneurial spirit that creates engines of growth for the long term.

Both these short term and long term benefits can only be delivered if supported by the right policy framework, infrastructure, and human capital, establishing a forward facing and truly national levelling up strategy.

Using technology to foster a new entrepreneurial spirit will also be vital for addressing the greatest challenge facing all of us: the climate emergency.

The UK enjoyed great benefits from the industrial revolution. However the climate consequences of this now threaten our future prosperity. As we enter the Fourth Industrial Revolution, we have a duty to ensure that this next wave of transformative technologies also helps secure the future of the planet.

In this submission techUK sets out specific steps to achieve the Government’s priorities of accelerating growth, levelling up the UK economy, and tackling the climate emergency; as well as a vision for the ensuring the UK tech sector makes the right mark on the global economy now that we have left the European Union (EU).

Yours sincerely,

Julian David
CEO, techUK
THREE PRIORITIES FOR THE NEW GOVERNMENT IN ITS FIRST BUDGET:

1. ACCELERATING UK GROWTH
   - A digital adoption fund
   - A digital business link
   - A tech clusters pilot
   - Enabling a market for digital identities
   - Updating existing tax relief to better suit the needs of modern businesses
   - Delivering the investment needed for the tech sector

2. LEVELLING UP THE UK ECONOMY
   - A UK Advanced Research Projects Agency (ARPA)
   - A road map to full fibre
   - Unlocking investment by reforming business rates
   - A skills platform
   - Reforming the apprenticeship levy
   - A facilities tax credit

3. TACKLING THE CLIMATE EMERGENCY THROUGH TECHNOLOGY
   - Support an International Centre for AI, Energy and Climate
   - An e-vehicle fiscal boost
   - Drive energy efficiency in SMEs
   - Support data centres, the green engine of UK growth

A Vision for global Britain and future UK trade policy

Annexes to the techUK budget submission
1. ACCELERATING UK GROWTH

THE UK HAS LONG STRUGGLED WITH AN INGRAINED PRODUCTIVITY PROBLEM. PRODUCTIVITY GROWTH IN THE UK HAS TRAILED OUR KEY COMPETITORS IN EUROPE, SLOWING THE UK’S POTENTIAL ECONOMIC GROWTH.

For much of the past decade economic growth has been driven by new joiners to the labour market taking up relatively low skilled work. However, this extra capacity is maxing out and future UK growth will now need to come from increased output from the existing workforce.

While the UK is home to some of the world’s most productive businesses, the UK’s deep-seated low productivity is caused by a greater share of relatively low productivity firms relative to other countries such as Germany and France.¹

In business-to-business activity the UK seriously lags our competitors. Where companies share data internally between business functions (excluding finance and micro companies), the UK sits in the bottom quartile of European countries.

Even when you include wider figures these lower productivity firms account for around 69% of the UK’s workforce, compared to only 60% and 65% in Germany and France respectively. Bridging this gap and increasing business adoption of key technologies and management practices would be worth over £100bn to UK Gross Value Added (GVA).²

Investment in new productive technologies and digitisation is a proven route to increase per hour output.³ To accelerate UK growth, the Government needs to put the boosters under UK businesses to encourage them to adopt technologies that will help them grow faster than ever before. This will also need to be supported by building a smart ecosystem in which to sell their products as well as developing the investment structures that allow smart ideas to become world beating businesses.

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A Digital Adoption Fund

Where statistics are collected on digital adoption, the UK tends to be in the middle of the league table compared to its European competitors. For example, 42% of all UK enterprises buy cloud computing services; the equivalent figure in Finland is 65%, in Sweden 57%, and in Denmark 56%.

techUK supports the creation of a digital adoption fund to help small businesses and first-time adopters receive relief on their first use of productivity-boosting digital services and technologies.

This would include cloud services, Enterprise Resource Planning (ERP), Customer Relationship Management (CRMs) and accountancy platforms.

The relief should be time-limited and would cover the initial adoption of the technologies, staff training costs and the first three years of the subscription to a service.

The adoption fund programme should run for an initial three-year period to provide a short-term boost. The fund should be evaluated to assess what digital services’ businesses are buying and the impact these services have on performance.

techUK would anticipate this operational allowance being based on a proportion of the spending made on a particular digital service, up to a cap of £3500 per year for a license (plus staff training). The average cost of a cloud subscription for a small or medium-sized enterprise (SME) is £290 a month.

To initially test the fund, techUK proposes that such a relief operate within an initial fixed ceiling of at least £100 million for the first year. This would be enough to provide 100% relief for over 28,000 small businesses as they adopt these modern technologies.

If offered at a rate of 25%, this would expand the scope of the allowance, offering over 100,000 businesses an opportunity to consider improving their digital adoption. Rates could also be varied to target specific geographical locations where uptake is needed most.

The programme should be an evidence gatherer as well as productivity booster. Participating companies who receive grants should also provide feedback about the benefits of the technologies they acquire. The government should not seek to prescribe what can be purchased, instead allowing businesses to identify what works. This would allow the government to learn from its experiences and refine delivery and support in a way that reflects on the ground experience.

Support for the programme will also need to come from a dedicated communication campaign. We also believe there is a role here for the Behavioural Insights Team to examine the key triggers for what encourages businesses take steps to digitise.

The adoption fund should be seen as a first step in a national campaign to ensure that every business becomes a digital business. The Government should seek to scale the programme after the first year.
A Digital Business Link

techUK is encouraged by the Government’s Business Basics proposals and the support given by the UK Government to Be the Business.

To support these efforts and the Government’s ambition to ensure that investment in tech infrastructure translates into the development of a world beating digital economy, techUK proposes introducing a revised Business Link policy with a specific focus on digital.

This Digital Business Link would aim at providing tailored support in the adoption and roll out of basic, new, and emerging digital technologies across currently non-digitised SMEs.

A Government study in 2015 showed that 79% of SMEs had never received advice on improving their digital capabilities, while 53% of medium-sized businesses had also not received any advice. However, those SMEs who had undertaken digital improvements had seen clear benefits, with 54% seeing increased sales, 53% reaching new customers, and 30% seeing cost-savings overall.⁵

The study showed that SMEs tend to focus most of their improvement work on upgrading websites, with less than 10% planning to make upgrades to other forms of digital improvements. For example, just 1% said that they planned to make upgrades to their software in the next 12 months.⁶

This is even though upgrades in cloud computing, for example, can have huge benefits. Lloyds Bank has estimated that SMEs with low digital capability could unlock up to an additional £84.5 billion in turnover if they were to develop a high digital capability. Digital channels are also vital for trading overseas. However, just 18% of SMEs currently use digital channels to do so. Increasing these channels will be vital for the UK when it leaves the EU.⁷

A Digital Business Link would focus on supporting technologies, which would support productivity growth, increase market access, and support SMEs exports including:

• Adoption of cloud computing
• Adoption of CRMs and accountancy software
• Creation of websites and other shop-window offerings
• Delivery of basic office functions such as mobile email
• Adoption of e-purchasing and e-ordering software
• Adoption of basic artificial intelligence in areas such as diary management and booking
• Adoption of digital identities and electronic signatures, augmented with a biometric element

The Link would be delivered through skilled programme managers who would engage in outreach and help educate business owners and purchasing managers on the types of solution available and what questions will be of most relevance to their business.

Companies could also engage with the Link through an online portal that would allow them to connect to a sector specific programme manager with expertise in a specific business area (for example catering or accountancy). This would allow businesses access to both local knowledge and expertise and sectoral advice that is better developed at national level.

When it closed in 2012, Business Link had an operational budget of £35 million per year. techUK estimates the cost of running a network of sufficiently experienced ICT project managers across 38 Local Enterprise Partnership zones to around £10 million per year. Scope and numbers of advisers and services available would be scalable depending on ambition.

Any new Business Link proposal needs to be led by what works, with the programme regularly evaluated for success and remaining flexible to stop, start, and scale depending on outcomes and where deployed technologies are most successful.
A UK Tech Clusters Pilot

Analysis of more than 500 cluster initiatives implemented over the last 10 years in 20 countries has shown that the high competitiveness of these countries is based on the strong positions of individual clusters. In particular, there has been strong growth in China due to the use of clusters. China has more than 60 special zone clusters containing 30,000 firms with over 3.5 million employees and approximately $200 billion USD of sales per year.⁸

In the UK, 31 economically significant clusters identified by the Centre for Cities contain 8% of the UK’s businesses, but generate 20% of UK output GVA.

Workers in these clusters typically have higher wages than those in the surrounding regions and attract higher levels of foreign investment and more skilled domestic and international talent.

Existing technology clusters such as those in the South West around Bristol and Bath have leveraged good connectivity and strong talent pipelines, seeing increases in salaries, employment, and economic growth.

In the early stages of this cluster, employment rose by 4% per annum and GVA output increased by 9% per annum. Salaries within these tech clusters were on average 37% higher than the average in the surrounding region.⁹

Building on existing thinking in Government around freeports, techUK supports the development of a digital clusters strategy to help level up key areas of strategic importance.

The most effective way for the Government to reap the benefits of tech clusters is to apply these benefits in strategic locations with an already established industry, but where driving up productivity and stimulating growth could have wider regional benefits.

The Pilot clusters could include:

• Autonomous vehicle and battery development based in the West Midlands
• Medtech and fintech solutions based in Edinburgh
• Computer-generated imagery, augmented reality and virtual reality technologies based in Manchester or Dundee
• 3D printing and circular economy processes across existing manufacturing hubs

techUK believes that cluster areas should receive several benefits such as:

• Built-in regulatory support for new products, learning from the successes of the Financial Conduct Authority and Information Commissioner’s Office regulatory sandboxes
• Easing requirements around product approval for the UK and select international markets, e.g. vehicle type approval for the development of autonomous vehicles
• Tax breaks and incentives such as enhanced R&D tax credits to build new facilities and purchase important equipment and software
• Dedicated support from the Department for International Trade to identify potential export markets, as well as trade facilitation support

Clusters should also be encouraged to upskill the existing workforce in addition to leveraging the UK’s ability to attract the best international talent. This could be supported by allowing authorities within clusters, such as select universities or UK Research and Innovation to manage exceptional talent and other visas. The Government could also offer financial support for prospective students and workers to relocate and reskill within cluster areas.

The Government is soon to publish a consultation on freeports. Identifying and developing tech clusters should be included within the scope for this.
Enabling a market for digital identities (digital IDs)

The steady shift of payments from face-to-face to online has seen a consequent shift in fraudulent activity, giving rise to new forms of fraud.

Spamming, phishing, identity theft, malware targeting individuals, and cyber attacks against online retailers can allow fraudsters to obtain huge amounts of payment card data. In 2017, the UK’s fraud prevention service, Cifas, reported 174,523 cases of identity fraud, a rise of 9% on the previous year. 84% of those frauds took place online.

Fraud in online channels increased significantly between 2016 and 2017, internet banking fraud increased by 19.3%, mobile banking fraud increased by 10.5%, and there was no reduction in e-commerce card fraud.

Digital ID offers opportunities to make identification and payment more secure, allowing for efficiencies in the delivery of public services, as well as enabling a variety of service and product innovations across both the public and private sectors.

Digital ID is foundational to achieving the true benefits of digitisation, such as open banking, open data, travel, secure proof of age, and the digital delivery of public services. Without an effective and universal digital ID system, there is a ceiling on what can be achieved.

The Government should institute a programme of work with the private sector to develop a market for digital identities which operate across the public and private sectors. To achieve this the Treasury should:

• Empower the Digital Identity Unit to drive change across Whitehall, work with the private sector, create standards, and establish governance mechanisms for digital ID
• Enable infrastructure investment to allow private sector digital ID providers and other partners to check HMPO and DVLA databases
• Provide sandbox facilities for cross-sector age and identity verification

We also advise the Government to review the recommendations of techUK’s Digital ID white paper (Annex 1) to further inform the development of a truly universal Digital ID policy.

Updating existing tax relief to better suit the needs of modern businesses

The Government should take steps to review and update tax relief for the digital era. For example, allowing tax relief to be used to support the needs of modern business, for example the purchasing of subscription-based services such as cloud computing. This would enable more businesses to have access to the creativity and productivity boosting tools that power the most innovative businesses.

The current relief system remains too focused on Capital Expenditure (CapEx) as opposed to measures to support Operational Spending (OpEx). The Capital Allowance system is an important mechanism to support the purchase of equipment and machinery for many businesses.

We welcome the Government’s proposed reforms to the R&D tax credit in the 2019 Conservative Manifesto. Through reforms to the R&D tax credit announced in the Conservative Party Manifesto, the Government has made steps to allow important investments in cloud computing and data, which boost productivity and innovation, to be incentivised through the tax credit system.

However, this good work should be taken further and the Government should take a wider view of the relief system. In implementing these reforms, we suggest close consultation with businesses to determine the best way to encourage take up and incentivise more investment in R&D activities.

The Treasury should also conduct a full review of the CapEx and OpEx systems to ensure that the reliefs available to UK businesses meet the needs of the modern economy and reflect the move from on-premise CapEx into OpEx.
This review should specifically focus on whether Capital Allowances need to be expanded to enable the initial purchasing of subscriptions and licenses, with relief delivered over a longer period than a single financial year; or whether a separate Operational Allowance could be developed to sit alongside existing reliefs for first time adopters.

The Government should also examine how such reliefs could be applied to software development, as well as examining the criteria for application. For example, the current R&D tax credit can only be applied to research likely to lead to a patent, meaning it faces a uniquely high threshold excluding development, and reducing the amount of R&D applicable to this type of credit.

There are clear benefits to encouraging digital uptake with an average net return of up to $2.5 for every $1 of investment in cloud services, with higher returns possible for both SMEs and large companies.

70% of companies have used the cloud to develop new products, services, or business models, to enter new markets, or to enable other product or service innovations, demonstrating a boost to innovation as well as a pure financial return.¹⁰

**Delivering the investment needed for the tech sector**

When the UK leaves the EU it will lose access to the European Investment Fund (EIF). The EIF plays an important role supporting UK venture capital (VC) funds and helps underpin a critical source of financing for the UK tech sector.

Between 2011-2015 the EIF invested €2.3 billion in 144 VC funds, accounting for more than a third of investment in UK VCs.¹¹

As a result, the fund has been seen as an “anchor investor” for many UK funds. In European terms the UK is very successful at securing Venture Capital - securing £6.8 billion in 2016, over 50% more than any other EU country. The role of the EIF has been significant in helping this come about.¹²

The EIF has also played an important role in greenlighting UK VCs as the investment of EIF funds is seen as an important bellwether of success. This, in combination with the UK’s success in attracting EIF funding, has meant UK VCs have received an enhanced amount of funding and the associated boost in confidence.

However, internationally, the UK still lags behind our competitors in the size and capacity of VC funds, particularly compared to the USA. US funds are on average 1.6 times larger than UK funds, meaning greater investment and greater return.

According to analysis from the British Business Bank, the disparity in funding with the USA is particularly noticeable in D and E funding rounds. This gap shows the importance of the UK supporting initiatives to build capacity within the VC market and ultimately mobilise the greatest amount of private funding to support enterprises.¹³

Having left the EU, the UK will need to look again at its VC funding model. This model has been a core element of the success of the UK tech sector. Ensuring the continuation of a healthy investment environment is vital to the future of UK tech.

The UK Government should consult on reforms to the British Business Bank and the proposed UK Shared Prosperity Fund (UKSPF) to carve out a specific high value tech fund managed between these institutions.
The fund should also have a specific remit to focus investments outside London and the South East in other regional tech clusters, for example, Manchester, Leeds, and Edinburgh. As part of this, any new fund should collaborate with existing localised investment structures, such as the Scottish National Investment Bank.

techUK suggests that the fund be supported by a panel of experts from the UK tech sector who can provide advice at an arm's length from investments on trends in the sector.

The fund should seek to collate capital directly from Government but also in combination with private funding that can be raised from the UK financial services sector.

The proposed jointly managed fund should consider:

• Investing directly into startups as well as indirectly via VC managers, which will require mission-oriented approaches to funding that align with the Government’s growth and economic objectives.
• Upgrading the skill set within the British Business Bank and UK Shared Prosperity Fund. By bringing in those with fund management and investment experience, the fund can be more effective at targeting high-growth areas.
• A review of the UK’s matrix of funding systems. The UK’s VC and investment structure is complex. In order to reduce duplication and allow for more strategic oversight, the Government should seek to consolidate funds where possible.
• A review of the relief and incentive structure for investors. The Government should not prevent those who want to invest in the UK economy from doing so. This will mean not just reducing tax burdens but examining regulatory and non-tariff barriers to international investment.
• Shifting the focus outside London. Historically, VC funding has been heavily focused in London. The Government needs to create better channels between public and private VCs and the UK’s nations and regions. As well as improving engagement. We strongly encourage the Government to establish a regular slot in the diary for VCs to travel to select locations throughout the UK annually. The Government should collaborate with regional mayors and enterprise partnerships as well as the Northern Irish, Scottish and Welsh devolved Governments and their agencies. techUK is willing to engage here as a strategic partner.

techUK will continue engaging with members and VC funds to build up evidence and testimony to improve the funding system. We look forward to discussing these considerations further with the Treasury in future.
2. LEVELLING UP THE UK ECONOMY

LEVELLING UP THE UK ECONOMY IS RIGHTLY ONE OF THE CENTRAL AIMS OF THE GOVERNMENT. TO MEET THIS OBJECTIVE, WE MUST INVEST IN BOTH HUMAN AND PHYSICAL INFRASTRUCTURE AS WELL AS CREATING THE SUPPORT STRUCTURES NEEDED TO ENSURE THAT NO MATTER WHERE IN THE UK, ANY TOWN, CITY OR REGION CAN BECOME A GLOBAL CENTRE OF EXCELLENCE.

On top of this, to be a leading digital economy that can compete on the global stage the UK needs to be at the forefront of the development and use of new technology. To achieve this, Government should build on the progress made in establishing a long-term industrial strategy by strengthening interventions to boost Research and Development (R&D) spending to 3.0% of GDP by the end of the decade.

To achieve the levelling up agenda the Government will need to be bold and determined to follow through on the Prime Minister’s pledge that his Government will be one driven by infrastructure, skills, and research and development.
A UK Advanced Research Projects Agency (ARPA)

To retain our position as one of the world’s leading tech economies, techUK endorses the Government’s plans for a high-risk high-reward research vehicle, similar to the United States’ Defense Advanced Research Projects Agency (DARPA).

techUK members have found the Grand Challenge framings useful to direct research, identify R&D support schemes and prioritise work. However, a UK ARPA should be more demanding, seeking to push the limits on technological innovation.

As is the nature of any high-risk high-reward research agency, a number of programmes will fail. Indeed, if all selected programmes are all successful, the agency is not being demanding enough.

A UK ARPA must focus on tackling initiatives where both the existing UK Government research structure and private sector are unable to take the necessary risks. It therefore must be free to designate its own projects and avoid bureaucracy, remaining independent of the existing UK innovation infrastructure. The Government should quickly initiate a Cabinet Office-led consultation on the design of a UK ARPA along with wider consultation on the process of setting the key objectives for the agency.

There are a number of questions raised by the creation of a UK ARPA:

- How and what kind of research will be undertaken?
- How will the funding model will be supported?
- Can a through line to commercialisation be demonstrated for potential projects & investors?
- How will ARPA be structured, will it have a physical location, or will it be structured as a network?
- How will ARPA demonstrate additional capabilities beyond bodies such as UKRI?

techUK believes that all of these questions are answerable by taking a strategic and pragmatic view of how such an agency would work in the context of the UK.

The DARPA model relies on high levels of funding. In lieu of very large injections of funds from the public sector, the UK Government should examine how private finance could be brought in to leverage funds from the UK’s globally significant financial services sector.

To fulfil the aims of the agency, this kind of funding should not have a role in setting projects. In setting up the agency, the Government should examine at what stage in the lifecycle additional funding elements can be brought in to benefit development.

However, to make this truly successful, the Government will need to examine how the Intellectual Property (IP) of procured products is shared between public and private participants. This is of vital importance, not only to produce returns on investments for the public, but also for any private sector participants.

techUK sees a role for the Department for International Trade to link ARPA outputs, where applicable, to key export markets, for example, the demand for software and robotics to better manage an ageing population.

ARPA will also have to have a unique approach from UKRI and other Government research programmes such as DASA. To do this the Government should examine what regulatory, funding, and skills exemptions ARPA should be enabled with, for example, regulatory tie-ins like sandboxing, tax exemptions, relief on infrastructure, and special privileges for recruitment and upskilling.
The Government will also need to focus on a clear division of labour between ARPA and other bodies to avoid duplication. ARPA should also have a role in challenging how the UK’s R&D infrastructure operates. Many of the existing structures seek to manage out risk, this is clearly counter to the aims of ARPA, therefore a degree of separation will be required to mitigate against ‘culture capture’ allowing ARPA to do what it was designed to do.

The Government will also need to consider the issue of location. However, techUK encourages the Government to examine the possibility of a networked approach, allowing funding to go to the best candidate wherever they are.

Pursuing a more networked approach and utilising existing infrastructure would allow ARPA projects to begin delivery in a shorter timeframe and with more dedicated resource focus on programmes and people, forgoing the lag of constructing a set location.

The Government should also be flexible to scale and consolidate gains made through ARPA. This will mean dynamically responding to outputs and may mean the investment in and creation of new capabilities, new markets, new companies, and new institutes.

A road map to full fibre

The Government should present a full roadmap for the delivery of these pledges to build confidence in the timetables established and enable investors to make key decisions. This plan should be based on an ‘outside-in’ approach, where rural and less commercially viable areas are prioritised. This plan should also include the creation of a regulatory framework that will maximise private capital in the ‘final third’.

To enact this, techUK would like to see a prioritisation of the deployment of full fibre and 5G infrastructure across the planning system by mandating that new premises are built with full fibre infrastructure and ensuring local authorities address issues around street works.

Unlocking investment by reforming business rates

The Government will also need to make commitments to incentivising demand through a reform of business rates.

Business rates are the remaining, major obstacle for fibre builders to making bigger commitments. The Government currently offers fibre rates relief in England to 2021/22 as a temporary mitigation to encourage investment (fibre rates exemption exists in Scotland until 2029 and no relief or exemption exists in Wales or Northern Ireland).

However, the short-term nature of the relief currently on offer in England means that the majority of the infrastructure that still needs to be built to meet Government targets will not receive significant relief over the course of the long-term investment that these projects require. To support the case for the investment needed to hit the Government’s ambitious targets, Government will need to look at relief based on time periods longer than five years.

There is clear precedent for such an approach for critical infrastructure, including power and heat generation that have helped support long term investment.

techUK recommends the Government match the 2029 exemption in place in Scotland across the UK. The Government should also seek to establish a working group with telecoms companies to further examine where rates relief could support future rollout, improvements, and 5G deployment.
A skills platform

techUK believes the Government should create a platform that brings together digital training and available roles within an accessible framework that identifies the strengths of the individual and supports them with structured digital learning towards real employment opportunities.

Government’s involvement in building and maintaining such a platform would also allow it to leverage significant data to develop an analytical understanding of the future digital skills pipeline enabling more targeted interventions. It would also allow them to draw in private sector skills modules and initiatives into one place, helping making it easier for people wishing to train, retrain, or upskill to identify the types of modules they need to get real world job opportunity in the modern economy and to access those modules quickly and cheaply.

Such a platform, backed by Government, would deliver enormous benefits for employers and individuals alike. Individual learners would feel more confident in investing their time and energy in reskilling if on a clear pathway laid down by Government. Employers meanwhile would benefit not only from a larger pool to recruit from but an ability to easily identify individuals with the skills (both human and technical) they are looking for from cohorts passing through the platform.

The platform would also help address challenges of bringing under-represented groups into science, technology, engineering and mathematics careers. It would enable Government to monitor engagement from key groups and offer incentives to pursuing a pathway through the platform. The platform would operate as a ‘skills broker’. Individuals would be assessed for transferable skills through an accessible reasoning and psychology test. They would then be presented with a learning pathway made up of available training material but tailored to their skills profile by making best use of their talents.

Meanwhile, for employers, those looking to recruit digital skills, from large technology companies to start-ups, would be able to advertise their roles on the platform in addition to the wider marketplace. These adverts would be exposed to those with the right transferable and technical skills as part of their digital pathway, creating an end-to-end digital journey which took an individual from first engagement to productive employment, all in a single platform.

This proposed platform, an ecosystem of industries and learning bodies, would utilise existing best practice and learning material but increase its value by placing it in a structured path that exposes it to the most suitable candidates.

Qualifications issued via the platform would be available digitally, as well as physically, to enable recruiters to validate who people are and building on digital identity profiles, to speed employment screening and ‘right to work’ checks. The Government could use this as a launchpad to provide verifiable employment claims to staff, via an application programming interface, to enable individuals to build up a trustworthy digital CV.

The digital skills gap costs the UK £63 billion a year. The cost of providing the core infrastructure for such a platform is estimated at £25 million over five years, which could be drawn from the Government’s increased funding for the national skills fund. Additional costs of supplying relevant modules drawn from academic institutions and elsewhere would be offset through the consolidation of the multiple and complex network of skills provision currently in operation.

techUK has outlined how the platform would work in more detail in a joint report with Deloitte (annex 2).¹⁴
Reforming the Apprenticeship Levy

techUK and our members strongly support measures to increase the number of people undertaking vocational training, in particular apprenticeships.

Apprenticeship starts have not met expectations and techUK believes that reforms to the levy need to be made to meet the ambition the Government has for the take up of apprenticeships.

The apprenticeship levy is broadened out to a more flexible “Skills and Training Levy” to ensure that training can be provided in a way that makes most sense for business and is not restricted, for example, by the 20% off-the-job-training requirement that currently exists.

The Government must also go further on transferable funds – increasing the percentage of funds that employers can share with businesses in their supply chain to 80%. This would allow those who pay the largest levy fee to ensure that skills development can be passed through their ecosystem and would encourage greater take up of apprentices by SMEs in their supply chain.

techUK also believes that the lifetime of the apprenticeship levy fund should be increased from two to five years. Our members tell us that the current two-year framework means that some companies who work on strict employment cycles are faced with a six months ‘fallow’ period where they are not able to use their levy fund. Extending the lifetime to five years would allow more businesses to make full use of their levy funds and optimise their contribution to the skills development agenda.

A Facilities R&D Tax Credit

The Government’s recent announcement that it continues to back the target for spending 2.4 per cent of GDP on R&D by 2027 is welcome, however meeting this target will require a historic increase in the UK’s R&D spending, meaning significantly faster yearly increases in the proportion of GDP spent on R&D than have ever been achieved before.

The current R&D tax credits system is a valued part of the UK offer on R&D. However, currently the existing R&D Tax Credits only covers projects and programme activity in the pursuit of research innovations, including staffing costs. There is no support given through the credit to cover expenditure involved in building or refurbishing the physical premises where R&D takes place.

While the research and development allowance system does allow some of these costs to be offset, it only offers 100% relief less the disposal value of the facility made. This is compared to the 130% relief offered for SME R&D relief and the current 12% relief on all R&D expenditure under the Research and Development Expenditure Credit.

A Facilities R&D Tax Credit will encourage investment on long-term capital investments. This will not only benefit existing companies by encouraging the construction of productivity boosting new infrastructure but also serve to attract investment from businesses whose R&D activities are not yet based in the UK.

The UK’s competitors are active in this space with countries such as South Korea having implemented such R&D policies. The UK must review examples of best practice and define an offer that will help the UK remain ahead.
3. TACKLING THE CLIMATE EMERGENCY THROUGH TECHNOLOGY

The effective use of digital technologies will be essential to decarbonise the economy by 2050. Existing technologies could already cut emissions by 15%, one-third of the 50% reduction required by 2030. With the right policy framework and climate leadership, digital technologies could support reductions of 50% of overall carbon emissions.¹⁶

Climate change is the biggest single threat that faces humanity. The UK enjoyed great benefits from the industrial revolution. However, the climate consequences of this now threaten our future prosperity.

The Government therefore has a duty to ensure that our Fourth Industrial Revolution helps secure the future of the planet. Investment in climate tech can give the UK a comparative advantage to take advantage of the growing demand for green tech by seizing the opportunity to become one of the world’s great exporters of solutions to the climate emergency.¹⁷
Support an International Centre for AI, Energy and Climate

The UK is at risk of falling behind in applied artificial intelligence (AI), and the Government needs to rapidly develop strong sector-specific support mechanisms. Policies, data-sharing models, market structures, and finance models developed for an analogue era are holding back the development and deployment of many data science applications for climate change and urgently need updating. Overcoming these challenges could unlock the potential for AI to systemically improve the efficiency of energy systems worldwide and help address wider climate challenges.

To address these challenges and concurrently open new markets for UK-based businesses, we are proposing the UK support an International Centre for AI, Energy, and Climate with an investment of £100 million.

The concept team behind the Centre has been working with BEIS officials in developing the evidence base since August 2019. If the UK were to establish such a centre in the first half of 2020, it would allow time for the organisation to establish itself and line up programmes and partnerships that could be launched at COP26 in Glasgow.

An e-vehicle (EV) fiscal boost

Further demand-side measures are needed to encourage update of electric vehicles, which still only represent around 2% of the market. Cars that are purchased new for commercial purposes (e.g. Fleets or private hire vehicles) form the basis for a second-hand market that can facilitate mass adoption.

Tax relief for PHV drivers or businesses purchasing EVs would stimulate domestic demand and support the continued growth of the manufacturing supply chains being developed in the West Midlands and elsewhere, helping to maximise opportunities for economic growth within a high-skilled, diversified economy.

Further, to encourage fleet operators to switch to low-carbon vehicles we need data-driven investment to target infrastructure investments in the highest impact areas. This should cover hydrogen and electric charging.

- The changes to benefit-in-kind tax rules for charging electrified company cars should be extended to all commercial vehicles.
- A phased in VAT reduction, or scrappage schemes, could help businesses transition, especially in LGVs and HGVs where the price differential is significant.
- A year one ‘no-tax’ benefit for companies switching will also reduce running costs for fleet operators.

Driving energy efficiency in SMEs

SMEs are responsible for over half of total business energy across the UK. Motivating them to invest in energy efficiency has been a challenge. Energy costs typically represent a low proportion of their total operational costs and SMEs have limited resources to commit. The cessation of the Energy Technology List in April 2020 leaves a policy gap to help make energy efficiency product attractive to the country’s smaller companies.

techUK recommends a new business energy efficiency scheme aimed at SMEs, to be introduced in partnership with energy service organisations. This can help to ensure expert delivery of projects at scale. Payment to the Energy Savings Opportunity Scheme could be modulated based on the efficiency innovations employed. Smart sensors and analytics should be a core offering.
A green reward scheme for councils

Central government will not be able to meet the net zero challenge alone. Local authorities hold a key role in supporting sustainable mobility choices and in the development of local smart grids, which in turn can unleash local-level innovation. Local authorities have faced major funding challenges and increasing numbers are voting to declare ‘climate emergencies.’

Treasury should use the March 2020 Budget to establish a reward scheme for councils. Councils that set measurable and ambitious decarbonisation objectives should receive rewards from Central Government if they achieve them. Without clear and coherent targets, it is difficult to judge, and reward local authorities based on performance, and thus incentivise local decarbonisation efforts.

Supporting data centres, the green engine of UK growth

One of the great success stories of the UK is its data centre sector. Data centres underpin an internet economy that contributes over 16% of domestic output, 10% of employment and 24% of total UK exports and is growing faster than any other in the G20.¹⁸

This sector is a success story - it is globally important and provides the technical infrastructure for financial services, aerospace, transport, healthcare, retail, and utilities. Each new data centre contributes between £397 million and £436 million GVA per year to the UK economy, while the contribution of each existing data centre is estimated to lie between £291 million and £320 million per annum.¹⁹

Data centres are where our industrial strategy meets our digital strategy, although they are often missed in Government economic policy planning.

The UK data centre sector is making good progress on its energy priorities, particularly in key areas like security of supply, renewable sourcing, and energy stewardship. The commercial sector’s energy is publicly reported and customers have insight into their respective energy and carbon impacts.

However, there is room for improvement in many areas. While cloud companies tend to lead the way in renewable sourcing, they can struggle to attribute carbon to individual customers. Although commercial operators and large enterprise providers report carbon publicly, the same cannot be said for smaller in-house, public sector and distributed IT, which means that energy data for the sector is incomplete. Distributed IT is notoriously inefficient and consolidating activity into purpose-built facilities reduces energy demand by at least two-thirds.²⁰

Decarbonising the UK’s data centres will be vital to greening the UK digital economy while also offering the UK advantages in international trade by securing the UK’s position as the premier global destination for green data.

techUK recommends the Government supports the policy recommendations of techUK’s UK Data Centre Sector Energy Route Map²¹ (annex 3) to support the greening of the sector.

These recommendations include:

- Implementing the recommendations of the 2017 Helm Review of energy costs
- Funding energy infrastructure in line with other infrastructure projects
- Honouring the 2016 commitment to reduce business energy costs
- Formally recognising data centres as electro-intensive industries
- Deploying price support mechanisms to support growth instead of delaying decline
- Reinstating the sector’s Climate Change Agreement

To refocus on the data centre sector and ensure that the Government supports this leading light of the UK digital economy techUK has included a draft policy paper summarising the nature of the sector, the challenges it faces and actions that can be taken to ensure its continued success (Annex 4).

techUK is happy to further engage with Government to help support this important priority.
The UK is internationally renowned for its tech sector. In Europe, the UK is the undisputed champion when it comes to tech investment and the size of its digital economy. As we leave the EU, the UK and its tech sector must look to wider global opportunities as well as a successful future relationship with the EU to continue and build on this success.

In a global economy where protectionism is creeping back in, free trade is in dire need of champions. The UK has always been a strong defender of the importance of reducing barriers to trade. In digital trade the UK has a great opportunity as one the world’s major digital economies to play a positive role in shaping the rules of the global economy.

To do this, the UK needs to put digital trade at the heart of its trade policy in all arenas as a champion of multi and pluri-lateralism. Achieving this leadership position will not just mean securing free-trade agreements with positive digital trade chapters, but also proactively engaging in the wide range of international fora that deal with digital issues, such as the World Trade Organization, Group of Twenty and the Organisation for Economic Co-operation and Development.

In our recent report, A Vision for UK Digital Trade Policy (annex 5), techUK set out 12 business backed policies that will allow the UK to become a premier defender of free trade, as set out by the Prime Minister in his speech in the Painted Hall on 3 February 2019.²²

Meeting these ambitions will also mean reflecting on existing policy. techUK has long called on governments around the world to work together through the OECD to support changes to global tax rules. The fair taxation of multinational businesses is one of the great challenges of the modern economy, with the current rules simply not fit for purpose. However, the solution to this problem needs to be found at the multilateral level.
As one of the world’s largest and most successful digital tech sectors we want to see the UK project an image of an open and internationally facing economy and one that is a firm supporter of free trade. To fully project this image, the UK should use the recent de-escalation over French digital services tax as an opportunity to refocus efforts at the OECD level and take a leadership role in designing a sustainable multilateral solution fit for the realities of the 21st century global economy.

There is also evidence from the French market that the punitive effects of the DST are flowing through the ecosystem to the detriment of competition in digital advertising and publisher revenue. The UK DST in its current form would capture all marketplaces regardless of what products or services they are trading, including digital advertising. Paired with the effect of a DST levied on search revenues, the DST would have similar effects in the UK.

It is very hard to see how the existing UK DST proposal would not be open to a similar challenge from the US. This risks an early trade dispute with the US at a time when the UK is trying to make progress in securing free trade agreements with key partners such as the US, Australia, New Zealand, and Japan.

The Government should follow the example of the French Government and pause plans for a UK DST due for implementation in April 2020. Instead, the Government should put its energies into building support for the OECD process at the G20 and other international fora, to position the UK as a leader in global tax reform.

techUK believes UK DST should be paused until the OECD process has run its full course. While paused, the UK Government should review concerns raised by techUK (Annex 6) and others in their response to the DST and its negative impacts on the digital sector.

We also have major concerns that the structure of the tax does not inadvertently impact non-digital activities, for example, by including fees for physical delivery services within that fall within definition of revenue in scope.

techUK is happy to consult further with Government on this.
ANNEXES TO TECHUK BUDGET SUBMISSION

Annex 1 | techUK’s Digital ID White Paper
Annex 2 | techUK’s Skills platform
Annex 3 | techUK’s Data Centre Energy Route Map
Annex 4 | techUK’s data centre policy paper (Draft)
Annex 5 | techUK’s digital trade paper – ‘A Vision for UK Digital Trade’
Annex 6 | techUK’s response to the DST consultation

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