

Renewing Scotland's Full Potential in a Digital World: Updating the Digital Strategy for Scotland

Discussion Document

September 2020



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1. Foreword

Digital technologies are transforming the way in which people live their lives across Scotland. They are also playing a central role in a continued focus on delivering better outcomes for people, and provide significant opportunities to improve our essential public services.

The coronavirus crisis has shown us that working digitally is more important than ever before and has driven fundamental changes, including how we work and how we interact socially. It has also shown that collaboration can achieve powerful results.

The Scottish Government and COSLA are committed to working together to deliver a refreshed Digital Strategy for Scotland that reflects this, and to engaging with partners across Scotland throughout this process. We share a vision of modern, digital and collaborative government, designed around people.

This can only be delivered when central and local government work together. We are committed to doing that to ensure services are designed to meet the needs of the user, cutting across boundaries between service providers, to deliver economic recovery, meet our climate change targets, and ensure that everyone in Scotland has the skills, connectivity and devices required to fully participate in our digital nation.

Globally, the pace and scale of digital transformation will only continue in the coming months and years. We are confident that Scotland is in a strong position to meet the challenges and realise the opportunities that this presents, and to further our reputation as an inclusive and outward-looking digital nation.

**Ben Macpherson MSP,
Minister for Public Finance and Migration**



Scottish Government
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**Councillor Gail MacGregor,
COSLA Resources Spokesperson**



COSLA

2. Introduction

We live in a digital world. It is changing the way we work, do business, entertain, deliver services, shop and keep in touch with our family and friends, as well as the work of government. It's a source of incredible opportunity – to open new markets, scale rapidly, tackle climate change and make links across the globe. It also brings huge new challenges - around privacy, regulation, security and social and digital inclusion.

Back in 2017, we set out a vision to ensure that Scotland is recognised throughout the world as a vibrant, inclusive, greener, open and outward-looking digital nation¹. This vision is now even more compelling. However, the context in which it needs to be delivered has changed dramatically.

The end of the Brexit transition period, and the prospect of no trade deal in particular, will compound the challenges Scotland faces as it tackles a global pandemic. Scotland has enjoyed many benefits of EU membership. Close collaboration with our EU partners and access to the digital single market has promoted innovation, growth and the exchange of ideas across borders. It is vitally important our digital technologies sector and wider economy has continued access to the world's largest and most integrated single market, so that Scotland remains an attractive destination for talent and investment.

The pandemic, and our response to it, has shown that the public sector needs to be able to act at speed to develop and deliver new services. It has shown us the importance of working in partnership, with businesses, the voluntary sector and ourselves to get the right support, to the right people, in the right ways. It has seen more and more of our businesses move online and rethink their operating models. It has highlighted the importance of the wellbeing of households and individuals to combat the isolation that can occur as a result of physical distancing, and the worry about the workplace of the future. It has given more and more of us the confidence to use and benefit from digital technology and made it more obvious that exclusion from the digital world can limit our life chances.

As we adjust to the impact of coronavirus and tackle the economic, health and social harm it has brought, we should not seek to simply return to previous notions of 'business as usual'. Currently we may not fully understand the extent of the economic and social shock of the pandemic, but we do know that it has redefined our perceptions of normal. We know that we must rethink the way the economy works and support a society that reflects the need to balance and sustain economic, social and environmental wellbeing. We know this work has the potential to contribute strongly to the [National Performance Framework](#), and delivery across all eleven outcomes.

This document brings together all the digital recovery work taking place across Government; digital was a consistent thread running through the [Programme for Government](#) and is key to Scotland's recovery.

¹ [Realising Scotland's Potential in a Digital World – A Digital Strategy for Scotland.](#)

We can and must understand and respond to the incredible opportunity it presents us with, to build a Digital Scotland in which:

- geography, background or ability is not a barrier to getting online and benefiting from digital technology, and we capitalise on Digital's potential to sustain and invigorate rural and island communities;
- we reinvent our public services to make them more personal, accountable, adaptable, efficient, sustainable and worthy of public trust;
- our government, NHS and councils are transformed into true digital organisations with digital skills, cultures and operating models;
- Scottish businesses embrace the economic opportunities of digital technology, marketing and ways of working;
- our third sector partners are supported to develop their digital capabilities and introduce new digital business models;
- our children are prepared for the workplace of the future, and training and skills development is available for the existing workforce;
- wellbeing is both safeguarded and enhanced through the greater use of digital technology;
- our Tech sector is an innovative one, successful internationally and involving enthusiastic partners in a network of digital and data talent;
- green thinking is incorporated into all our digital solutions, so we can contribute to meet our statutory commitments to be a net zero society by 2045; and
- we are open, ethical and working with others to meet new moral, environmental, regulatory and security concerns.

Our people, places, economy and planet require it.

3. Purpose

This is a discussion document. It is designed to stimulate ideas and serve as the basis for consultation and engagement with stakeholders, the public and businesses about the final content of the updated digital strategy.

It describes an ambition which we jointly believe is proportionate to the extent of the challenges and opportunity we now face.

The document has been co-produced by Scottish Government and Scottish local government (representation from COSLA, the Local Government Digital Office and the Improvement Service). It enjoys the support of NHS Scotland and has been shaped by contributions from our tech sector.

We hope to stimulate ideas and contributions that will inform the final Strategy and the digital vision for Scotland. This will deliver the commitment made in the Scottish Government Programme for Government² and provide an overarching framework, priorities and principles that will shape subsequent, sector specific action plans in areas such as planning and health and social care.

This document is intended to set out the overarching digital vision; but separate strategies and or action plans may be required in specific policy areas. Digital strategy updates which take account of the radically changed environment are underway across government, including in health and social care, in planning, and in learning. We are working closely with colleagues to ensure our work is aligned, and together we deliver the vision outlined in this document.

We are grateful for the input we have had so far in the development of this document. This includes the 56 submissions received from a cross section of Scottish business through the joint Digital Nation initiative with ScotlandIS, our involvement in the Scottish Enterprise led work on Using Covid-19 Recovery and Renewal Scenarios to support Planning and Policy Making, the input of the cross-public sector Central Government Digital Transformation and Technical and Design Boards, and the views of the Scottish Council for Voluntary Organisations, the Scottish Library and Information Council, the Open Rights Group and Citizens Advice Scotland. We look forward to receiving further views throughout the engagement period.

We are now seeking views and input to this discussion document between October and December 2020. While this document may appear to be nearly finished, and the language definite, that is not the case. We are now actively seeking contributions from across society. We want you to challenge us if you think we can go further and caution us if you think that a different approach is required. We want you to think about and suggest the actions we should take together – immediately and over the longer term – to bring the vision into reality.

² <https://www.gov.scot/publications/protecting-scotland-renewing-scotland-governments-programme-scotland-2020-2021/>

We are committed to ensuring the engagement we undertake is inclusive, and will work with partners to ensure as many views as possible from across society are included – including those of the digitally excluded.

Based on your feedback, we will then work to develop and publish the updated Digital Strategy for Scotland.

We are keen to hear all of your views on any aspect of the focus and actions required for an updated Digital Strategy for Scotland. Please see the “Responding to this Consultation” section on page 35 for details of how to take part.

4. No One Left Behind

Geography, background or ability should not be barriers to getting online and benefiting from digital technology. To achieve this, we need networks which reach every corner of the country. The pandemic has highlighted the importance of access to the internet, for information, access to services and the social links that are so important to wellbeing. However, it also exacerbated isolation and inequality and focussed attention on the consequences of the digital divide. Digital and data skills are vital to us all, and the internet is fast becoming a basic essential in our lives. We need to ensure everyone has these skills and access.

Our digital infrastructure is critical national infrastructure and is central to economic and societal resilience. It must be capable of meeting the current and future needs of business and society – including providing fair and equitable access to connectivity so all of our people and businesses can benefit from being on-line. We rely on fixed and mobile connectivity, the systems they support and the data they produce to find information, shop, enjoy our leisure time and engage with government and public services. Fast resilient connections provide a competitive advantage for business. When used alongside other technologies, they can provide insights that allow us to cooperate and maintain more traditional infrastructure in a greener and more efficient way: for example by managing road traffic flows; monitoring performance and making real time decisions about energy consumption.

The Infrastructure Investment Plan consultation sets out a single vision for future infrastructure, underpinned by three themes:

- enabling net zero and environmental sustainability;
- driving inclusive economic growth; and
- building resilient and sustainable places.

Effective digital connectivity can ensure that our rural and islands communities are an integral part of the economic, social and environmental wellbeing of Scotland. It can make living and working in a rural setting a more attractive option for those who have recognised the benefits of home working, or for small businesses who can rely on the same access to international markets on a level playing field with their urban counterparts. It can also help to diversify our rural economies by capitalising on the unique richness of Scotland's renewable energy sources to attract investment in high quality jobs such as in the data centre industry.

A Digital Scotland can be a more inclusive nation in which the benefits of digital technology can be for everyone. It can be a country where there is universal Digital Citizenship, with world-leading levels of digital inclusion, participation in community and democracy, accessible by all – where no-one is unable to participate because of poverty. A nation in which the services that digital technology can deliver the access it provides to information and knowledge and the job and business opportunities it creates can be for all. Where we use technology to promote wellbeing, and tackle, rather than reinforce, the inequalities of the analogue world.

Potential Actions to ensure that no one is left behind:

- **Deliver broadband coverage for all:** We will do this through a combination of the [Scottish Government Reaching 100% \(R100\) programme](#), considerable network upgrading by commercial providers and future UK Government investment. While telecoms is a reserved responsibility of the UK Government, the Scottish Government, recognising the importance of digital connectivity, has chosen to provide extra investment in certain areas to accelerate progress.
- **Improve 4G mobile coverage and set the right conditions to encourage investment:** We will continue to deliver the Scottish 4G Infill Programme, bringing future-proofed 4G infrastructure and services to selected mobile “notspots” in rural Scotland. We are also making it easier for mobile and other telecoms operators to deploy in Scotland, for example through the production of rental guidance to facilitate access to publicly owned assets and simplification of the planning process, while ensuring we continue to protect the natural environment.
- **Digital inclusion that tackles inequality and promotes wellbeing:** We will work to ensure that moving government and other services online reduces inequalities and does not exclude the least advantaged in society from the services they may need the most. This will require us to build on the Connecting Scotland programme to provide equipment and data packages and digital skills training to those in greatest need. We will also work with the third sector and others to provide training and support to ensure that people have the skills, confidence and information literacy required to make the most of being online.
- **An education system that builds digital skills:** We will need to continue to take action to address future skills demand and ensure that education equips people with the skills and capabilities they need for the future. Education will need to keep pace with the constantly changing world, which calls for new skills. The development of these skills will also need to recognise that the way in which people learn is changing as more courses are delivered flexibly on-line, so we will closely align with our plans for a new National Digital Learning Strategy to ensure a coherent digital learning experience.

CASE STUDY

CONNECTING SCOTLAND – ENDING DIGITAL EXCLUSION

At the beginning of the coronavirus pandemic thousands of vulnerable people in Scotland who needed to shield found themselves unable to keep in touch with family and friends, or carry out tasks such as online shopping which most of us take for granted, because they didn't have the confidence to go on-line, or the kit and connectivity in their homes.

The Scottish Government, in partnership with Scotland IS, the Scottish Council for Voluntary Organisations (SCVO), COSLA and Healthcare Improvement Scotland, set up [Connecting Scotland](#) in just four months to address this. Nine thousand people at high clinical risk from coronavirus were given an internet connection, training and support and a laptop or tablet, so they could access services and support and connect with friends and family during the pandemic.

Each of the partner organisations lent their own area of expertise: the SCVO were able to make contact with and convince harder to reach groups to take part in the scheme; whilst telecom providers gave free access to NHS Websites to ensure data usage was minimised.

Recipients immediately reported improved wellbeing thanks to the programme. For Shannon and her family, this has made a huge difference: before joining the programme her children were trying to use a mobile phone to do schoolwork, making home-schooling even harder.

An extension of Connecting Scotland now aims to end digital exclusion by getting 50,000 people online by the end of 2021. This will open up access to education, health care and employment opportunities, counter social isolation and raise the quality of peoples life.

CASE STUDY: PROMOTING MENTAL HEALTH AND WELLBEING IN YOUNG PEOPLE

This ground-breaking CivTech® challenge, developed in partnership with Stirling Council and NHS National Services Scotland puts young people in Stirling in charge of a project to find better ways for their peers to engage with mental health issues.

Mental health champions across secondary schools in Stirling spent three months researching and developing ways technology can help young people start discussions about mental health and address the stigmas sometimes associated with it.

They secured the support of Edinburgh-based company Voxsio to develop a prototype chatbot called '[Allichat](#)', accessible across social media platforms, to help young people get personalised answers to complex questions. The aim of the solution was to help young people start conversations about mental health, and provide personalised advice on where to access additional services and ongoing support.

Allichat turns each search into a conversation that gives personalised results by understanding the question and the individual's context.

**CASE STUDY:
BOOKBUG –
HOW AN APP HAS HELPED GIVE BABIES, TODDLERS AND PRE-SCHOOLERS
THE BEST START IN LIFE**

[Bookbug](#) is a partnership between Scottish Government and the Scottish Book Trust that gives free book bags to every child in Scotland, and runs free song and rhymes sessions across the country, to help improve children's literacy.

While a Bookbug app couldn't – and shouldn't – replace existing resources, it was identified that an app would have huge potential to reach more families across Scotland, by helping families to fit songs and rhymes into their daily routine more easily.

It was important for the app to be built for users by users, so developers worked with a mix of local authorities, NHS health boards, library services, and charitable organizations such as Barnados, the Scottish Childminding Association, Play Scotland and local Multicultural Associations.

Following launch in January 2019, the app has been downloaded over 40,000 times and over 2 million songs and rhymes have been listened to.

The key to its success was working directly with families to see what they needed most including:

- 'Find my nearest Bookbug Session' to help families find physical sessions nearby, to encourage a break from the screen; and
- songs and rhymes in other languages, and instrumental versions so users can sing along in their own language.

The app was also instrumental in providing a quick response to lockdown following the outbreak of the coronavirus pandemic, as it allowed for Bookbug sessions to continue on-line when physical sessions had to be suspended.

Future plans include developing targeted features to broaden the reach, deepen the impact of the Bookbug programme; and improve the accessibility of the Bookbug app for users with a range of disabilities and access requirements, as well as socioeconomic barriers to access. This includes improved accessibility and additional content for British Sign Language (BSL) users, and broadening the availability of content in Scots and Gaelic.

**CASE STUDY:
UNICEF DATA FOR CHILDREN COLLABORATIVE – USING DATA TO IMPROVE
THE WELLBEING OF CHILDREN**

[The Data for Children Collaborative](#) with UNICEF is a unique partnership between the Scottish Government, UNICEF and the University of Edinburgh Data Driven Innovation Programme, hosted by The Data Lab.

It seeks to improve outcomes for children locally, nationally and globally, by using data and data science techniques to solve societal problems such as nutrition, poverty, population dynamics, mental health, climate change and the impact of the coronavirus pandemic.

Proper nutrition is essential, and children who are well nourished are more likely to be healthy, productive and able to learn, which benefits families, communities and the world as a whole.

[Research by UNICEF](#) suggests that childhood obesity is on the rise with the number of children 5-19 years old who are overweight globally almost doubling in 15 years. In Scotland, almost a quarter of children are starting school at risk of being overweight or obese, with the poorest children at almost 50% greater risk than the wealthiest.

[The Growing Up in Scotland \(GUS\)](#) project is supporting Scotland's target to halve cases of childhood obesity by 2030, with the aim of developing an effective, inexpensive, routine measurement system that can flag indicators to prevent obesity, protect children from malnutrition and promote healthy lifestyles.

The project is addressing questions such as:

- At what specific ages would measuring height and weight most effectively and efficiently identify children at risk of persistent obesity at ages 10 and 12?
- What underlying risk factors for child obesity could be used to accurately identify cases of concern, and intervene in a preventative way, before obesity develops?
- How do markers of family socio-economic status relate to child overweight and obesity? (Including child obesity unrecognized by parents)?
- Are any adverse and protective childhood experiences independent risk factors for obesity?

Analysis has already highlighted important risk factors for childhood obesity and is continuing to explore issues how both Adverse and Protective Childhood Experiences contribute to obesity risk.

The project currently focuses on Scotland, but the opportunity exists to support other countries in the global challenge to reduce obesity rates, by sharing the learning. Over 80 delegates from countries around the world recently came together to hear about the progress of this and the other projects the Collaborative is taking forward to address the challenges facing children locally, nationally and globally. Demonstrating Scotland's commitment to be leader in the data for good movement.

5. Services Working for All

The coronavirus crisis has, more than ever, demonstrated the importance of public services that are secure and resilient, and which are able to adapt and scale in response to changing demands. The response to the crisis in areas like healthcare has also very clearly demonstrated the positive impacts of delivering joined-up digital services.

People and businesses want services that are accessible and simple to use. They want them to be inclusive and designed around the needs of their users, rather than the organisational structures or traditions of the organisations that provide them. Digital technology allows us to deliver services more locally rather than expecting people to travel to our offices, anticipate needs more effectively and to make the connections between the services offered by different organisations so that can respond to needs in a more comprehensive way.

To achieve this we need to:

- collaborate to deliver end-to-end service journeys to boost people's wellbeing by enabling them to access vital public services in a way in which is convenient and easy to navigate;
- work together to create the right conditions and a shared language; and
- make sure our design methods are inclusive and accessible for everyone, so that we encourage, empower and enable all citizens to participate in designing the services they need.

Although it will take time to deal effectively with the challenges of working with and replacing existing systems, our vision must be consistent with digital and data standards that:

- use the Digital Scotland Service Standard³ to make sure that services in Scotland are continually improving and that users are always the focus;
- embed [the Scottish Approach to Service Design](#) and ensure that users are in the room when design decisions are made;
- promote and safeguard household and individual wellbeing;
- protect Scotland's data, to enable resources to be focussed at the frontline, where innovation and a supported personal service can make a difference to the experience of users and the specific needs of a local community;
- ensure that data is shared within agreed ethical standards and approaches in order to meet user needs;
- use data to enhance public accountability, drive performance improvement empowering local communities to play an increased role in the design and delivery of local services;
- use common cloud based technologies for processes that improve quality, and are replicated across public sector organisations, to enable resources to be redirected to front-line local delivery;
- are open and make code available wherever practicable to stimulate further innovation;

³ <https://resources.mygov.scot/alpha/service-standard/digital-scotland-service-standard/>

- enable services to become proactive (for example enabling automatic entitlement without individuals needing to claim themselves, and prevention/early intervention);
- enable innovation and improved services based on the analysis of real-time information flows to quickly identify trends; and
- recognise that cyber security is critical to developing digital public services, and so needs to be built in from the start. This is both in terms of systems but also with regard to the application and use of digital solutions, including in workforce development, ensuring that staff at all levels of organisations have the appropriate skills in cyber resilience and cyber security.

Modern government and organisations need to work together to reduce unnecessary duplication of work, improve the way they use data, and the way they deliver services to Scotland’s people. We can achieve this by working together to adopt shared scalable and flexible systems and processes, building the common platforms described in figure 1 and those that already exist; making them work for many different users and services and overcoming the issues of out of date systems and challenges of data sharing.

Figure 1: Common Platforms

	Identity	Confirming personal identity securely, to access public-sector services digitally.
	Payments	A wide range of financial transactions.
	Applications (forms)	Online forms.
	Publishing	Making information about services and functions accessible online.
	Customer Relationship Management	Storing customer data and interaction information.
	Management Information (Performance)	Data analysis, and publication of performance information.
	Cloud Operations	Supporting public sector to make efficient and secure use of cloud technology.

Potential Actions to ensure that digital public services work for us all:

- **Transform key public services:** We will set out new and ambitious reform programmes for key areas of government, including health and social care, learning, justice, planning and agriculture and the rural economy. In each priority area, a partnership of Scottish Government, Local Authorities, and other key stakeholders will work together to set out new, greener ways of working to help deliver a net zero society, that are centred around the people who use our services to boost their wellbeing, and ensure it is easier to deal with government, at all levels, online.
- **A Digital Third Sector:** We will work with third sector partners and Digital Participation Charter signatories to enable third sector organisations to develop their digital capabilities and introduce new digital business models.

This will promote common standards and technologies across the sector and promote interoperability with public sector partners.

- **A joint Service Innovation Centre:** We will develop the highly successful CivTech operation as the centre of public service innovation for national and local government. It will take public service problems and challenges and support entrepreneurs and small businesses to create, launch and implement digital solutions. The backing of the Scottish public sector as a whole will further strengthen Scotland's reputation for innovation and our competitive position in the international GovTech market.
- **Introduce a digital identity service for users:** We will develop and establish a trusted and secure service for users to prove who they are, and that they are eligible for a service. Users will be able to store their information and choose to share it when applying to public services. This will improve a user's access to services by providing a safe and secure way to prove their identity, while reducing time and cost for the public sector. Additionally, we will develop an inclusive approach for all users to ensure that offline services are available for those who are unable to use a digital service.
- **A digital service hub:** We will develop a common catalogue of services and service components that will be used as a default across national and local government, including, for example, a common online recruitment service. This will be based on a common architecture, a joint approach to prioritisation, joint design, joint commissioning/procurement and joint governance, delivering efficiencies and simplifying people's experience of working with and in government. At the heart of this will be a set of common operating platforms as described in figure 1. We will ensure that all new organisations and services across national and local government are built using the platforms. Existing organisations will aim to move to these platforms as they need to replace their systems.
- **Adopt common digital and data standards:** We will develop and accelerate the use of a common digital and data standards across the public sector. This will make it easier to join up services for the benefit of the people who use them. We will embed the Scottish Approach to Service Design, and ensure that users are involved in all design decisions, data can be shared where appropriate, teams are resourced and skilled appropriately and that common services and platforms are used as the default. To aid this, a Data Standards community of practice will be formed to develop the ambition, build a roadmap of key steps to be taken and processes to help organisations improve. We will develop a public sector data catalogue, which will make it easier for everyone to see what data is held and to understand how to access it.
- **Protect and create value from Scotland's data:** We will establish Research Data Scotland as an internationally recognised centre of excellence for ethical research that uses the high-quality data we have about people, organisations and places to systematically improve the lives of people in Scotland. Research Data Scotland will use national level anonymised data sets to provide insight to policy makers to improve policy making and allow for a greater public debate on important policy issues. This will build upon the Research Data Scotland Covid19 Service, and COVID 19 Data and Intelligence Network, which have proved invaluable in providing the real-time intelligence required to make rapid decisions in response to the coronavirus pandemic. It will also help to attract international business from both academic

and commercial partners by establishing Scotland as a centre of data expertise. We will develop a Data Transformation Framework to improve data reuse in the Scottish Public Sector. This will enable our organisations to understand their data maturity with steps and support to improve. Central elements of the Framework will include Data Standards, Ethics and Social Responsibility, Skills and Data Management. We will more of our data available openly, renewing our focus on data which will improve transparency, open government and create economic opportunity.

- **Accessibility:** We will make design decisions through the lenses of inclusion and offer clearly signposted alternative ways of accessing services for those who cannot, or do not want to, use digital routes. This will include the development of tools, processes and approaches that will allow identity to be established in a secure and sympathetic way for the digitally excluded. We will ensure that face-to-face services continue to be provided when they are necessary and enhanced, where possible, by technologies that support staff with local decision making and service delivery.

CASE STUDY NHS NEAR ME – ACCESSING SERVICES REMOTELY

[Near Me](#) is a video consulting platform that allows patients and service users to attend appointments remotely – connecting to a virtual waiting room and being dealt with by a clinician online.

Prior to the coronavirus pandemic NHS Highland and NHS Shetland had pioneered the use of the service which had seen patients in Shetland avoiding the need to leave the Islands to attend outpatient appointments in Aberdeen; and patients in Thurso avoiding a six hour, 240 mile round trip to Inverness.

Consultation was due to be rolled out gradually in 2020 following several years of development. These plans were rapidly accelerated - transforming the way people are engaging with health and care services. As part of the immediate response to Covid-19, the Near Me programme, working with local boards, has enabled video consulting to be available in nearly every GP practice and many secondary care services, social work teams and care homes in Scotland.

Before March 2020, there were around 300 Near Me consultations a week in Scotland: by the end of June, that figure had risen to almost 17,000 a week. With a patient survey saying 98% would use the service again.

**CASE STUDY:
SMART CITIES –
USING THE INTERNET OF THINGS TO IMPROVE STREET LIGHTING**

Through the [Scottish Cities Alliance](#) millions of pounds are being invested to make Scotland's cities smarter, using new technologies to accelerate and transform the delivery of city services.

Local Authorities, including Glasgow City Council, have introduced a network of intelligent street lighting as part of ongoing initiatives to improve digital infrastructure in our cities. Intelligent street lighting systems consist of a network of street lights that communicate with each other, allowing for more control and efficiency, while harnessing the power of real time data to improve both lighting and safety throughout the city. Intelligent street lighting can be controlled, dimmed, and can alert users of any faults as they occur, avoiding the need to wait for a complaint to be received.

The system also supports our environmental ambitions, providing savings on annual street lighting energy consumption and costs.

**CASE STUDY:
HISTORIC ENVIRONMENT SCOTLAND –
USING THE INTERNET OF THINGS TO BETTER MANAGE REMOTE SITES**

The Internet of Things enables us to collect data about our world offering new understandings, highlighting patterns and enabling more efficient ways of working to be developed. For Historic Environment Scotland, managing 251 unstaffed sites – some in very remote areas – presents many challenges. Even basic information, such as visitor numbers, cannot be accurately determined as traditional footfall counters can be unreliable and triggered by wild animals. Historic Environment Scotland put forward a CivTech Challenge “How do you collect meaningful data from their remote sites?”

A company called Wilderness Sensors emerged as the successful applicant with a rugged, low-powered Internet of Things device, capable of remotely transmitting information such as real-time visitor numbers and environmental information. As these devices operate in remote locations, far from power sources, the sensor uses self-monitoring, sophisticated power management and energy harvesting technologies – all of which helps to reduce maintenance costs.

Armed with a much deeper insight into what is happening at remote sites allows Historic Environment Scotland to better prioritise investment in staffing, conservation, long term environmental impact analysis and maintenance.

**CASE STUDY:
USING ARTIFICIAL INTELLIGENCE TO IMPROVE CUSTOMER SERVICE**

Scotland's Councils continue to innovate and re-design services around people and their needs.

Aberdeen City Council has launched a chatbot (AB1) which responds to questions on a series of its essential services, and which has been developed as part of the council's collaboration with Microsoft. AB1 can directly answer residents' questions about waste and recycling, roads and street lighting, education and council tax or signpost them to relevant information. AB-1 has the capability to "learn" how to deal with queries and the number of services it covers will continue to expand.

By harnessing Artificial Intelligence, Councils are transforming service delivery - increasing convenience for customers, freeing staff to carry out specialised tasks, and saving public money in the process.

**CASE STUDY:
DELIVERING SERVICES ONCE FOR SCOTLAND TO
IMPROVE CUSTOMER SERVICE**

'parentsportal.scot' is designed to transform communications between schools and parents, replacing the traditional schoolbag run with direct digital communications.

It provides secure access to parents to a wide range of online services and information about their child's education. Developed by the Improvement Service and SEEMiS, the portal's aims to improve parental engagement, reduce administrative burden and provide convenience for busy parents. 7 Local Authorities use it, 6 more are on boarding, and more will follow. With schools returning the portal enjoyed its most successful month ever in August 2020, breaking new records for: number of schools making it available; parental subscribers; authentication requests; returning visitors.

Parents can sign-in using myaccount, the secure and easy way to access public services online in Scotland.

**CASE STUDY:
REGISTERS OF SCOTLAND – DIGITAL TRANSFORMING THE WAY PEOPLE
ACCESS SERVICES BY PUTTING THE USER AT THE HEART OF SERVICE
DESIGN**

In response to the impact of the Coronavirus pandemic, Registers of Scotland (RoS) accelerated its plans to transform its submissions process.

Rapidly moving from a paper to a digital system, it has launched five new online services. People were at the heart of the development process with 58 research sessions involving 126 service users taking place between March and July 2020.

Customers are now able to upload their documents for processing in a matter of minutes rather than relying on more time consuming delivery methods such as post and courier services.

It is anticipated that these benefits will support a faster, greener, more resilient conveyancing process by reducing, where possible, reliance on physical processes.

It is estimated that digital ways of working have decreased RoS' monthly paper usage by over 99%. Significantly reducing its carbon footprint by moving from an average of 250,000 sheets of paper down to only 500. It is also expected to save RoS over £75,000 in terms of annual postal contracts.

6. Transforming Government

The transformation of public services requires national and local governments and NHS bodies to become digital organisations. They will be built on digital business models that take advantage of the opportunities of digital technology. This means that public sector organisations will:

- focus their resources on the things that matter most to people, with innovation that improves the experiences of their users, reflects local circumstances, and ensures their wellbeing;
- publish data to improve and integrate the services they offer and ensuring that they are accountable to the people they serve;
- work as part of a network of organisations, including businesses and the third sector to take advantage of the things we all do best;
- design, develop and procure services ‘once for Scotland’ to save time and money, create greener services that help deliver a net zero society, and offer a more consistent experience to our users;
- automate our back office processes to improve efficiency and free up resources for the front line; and
- have the leadership, skills and culture to take advantage of the opportunities of data and digital technology.

The pandemic has highlighted the potential benefits of the greater use of home and remote working supported by digital connectivity and technology. This could, if developed properly, and with the engagement and support of public sector staff to ensure that their wellbeing is safeguarded, have a significant impact on both efficiency and carbon footprint.

Reform of this nature will take time. Not only does it require government to build new and effective operating platforms, it requires government to remove the legacy systems and replace long established practices to take advantage of them and embrace new working practices. It requires a relentless focus on operating efficiency with automation and spending controls on back office processes, so that we can invest in services that meet local needs. In short, it requires, the transformation of Government.

Potential actions to Transform Government

- **Changing our culture:** We will develop and sustain the cultures and working practices required to be successful in the digital age and enhance wellbeing. This starts with the use of technology to extend and embed the principles of open government by enabling greater accountability and community engagement. In this way we will foster and sustain agile working, greater collaboration and data sharing within and across organisations.
- **Drive efficiency to release more capacity for the delivery of frontline services:** In line with the infrastructure investment plans to develop a new, system-wide infrastructure investment assessment and prioritisation framework, we will establish a public sector centre of excellence for process automation to reduce the need for staff to undertake repetitive and

administrative tasks. This will commission joint projects and share information about 'what works' to avoid unnecessary and often costly repetition of work. We will work with individual organisations to encourage them to focus on operational efficiency and deliver greener services. Within Scottish Government, we will introduce spend controls on digital/IT investments to accelerate the implementation of common platforms, processes and standards and eliminate unnecessary duplication in procurement, ensuring we utilise what already exists.

- **A single, shared digital academy:** We will establish the Scottish Digital Academy as the skills provider of choice for the Scottish public sector, with an expanded range of courses and innovative online learning capabilities. This will accelerate the delivery of digital skills that we need both now and in the future; build stronger professional communities to share best practice; and develop leadership capabilities.
- **Pooling digital and data expertise:** High quality digital and data skills have been in short supply in the public sector for some time. Alongside our plans to expand our training capability, we will therefore establish a new, pooled resource of digital and data experts that public sector organisations can call upon to help them transform the way they work. We will also work with partners across the public sector, including the Civil Service Commission, to explore how we can radically overhaul our approach to digital talent recruitment in the Civil Service in Scotland and the wider public sector, in recognition that the current recruitment process is based on siloed ways of working and historical organisational arrangements.
- **A new commercial model:** We will review and update funding models to consider moves away from traditional large capital expenditure infrastructure owned by public sector organisations to subscription-based pay-as-you-go models. Through the Digital Commercial Service we will implement a commercial operating model based on the twin tracks of a small number of key strategic alliances and an open inclusive approach to procurement which provides meaningful commercial opportunities for small businesses and start-ups.
- **Digital democracy:** We will explore the potential for digital technology to better enable parliamentarians and elected council members to engage with constituents remotely to enhance the resilience of the democratic process; assist participation in local decision making and community councils; and to engage with overseas governments remotely to improve Scotland's international influence.

**CASE STUDY:
SCOTTISH DIGITAL ACADEMY –
INCREASING AGILE CAPABILITY IN POLICE SCOTLAND**

Police Scotland approached the [Scottish Digital Academy](#) to help them address the many complex and rapidly changing challenges they faced in delivering a service for citizens in a digital age. They had identified that the adoption of agile ways of working, was necessary to enable digital transformation in a customer-focussed organisation, and were keen that the Academy help build their agile capability.

Following initial consultation, two senior police officers participated in an Agile for Leaders course, which demonstrated the value of agile working across the wider police force. This resulted in further requests were received for Academy support at various levels for continued training and coaching.

This has resulted in practical improvements in real time information to Police Officers on the ground. They are now able to receive information faster, which allows them to perform their duties to the same levels of accuracy. This is now being rolled out across Scotland.

Interest has continued to increase amongst Police Scotland and a wider range of agile projects have subsequently been delivered including work to improve case management, and work to improve governance arrangements, thus ensuring that the organisation is more reflective of the communities it serves.

Use of Academy services to deliver agile course to Police Scotland staff continues to grow. This will allow the organisation to become even more responsive to the changing nature of work, so it can scale at speed to address societal challenges as they arise.

Police Scotland view the Academy's support very positively, and considerably more demand for services is anticipated as the concept of agile working continues to expand across the organisation.

Sergeant Shona Mackay, has this to say of adopting agile: "...we are much quicker in delivery, and in anticipating future challenges... our productivity has gone sky high, and staff feel greater ownership and empowerment in the *developmental processes*."

**CASE STUDY:
CHANGING OUR CULTURE –
DELIVERING COMMON SERVICES ONCE FOR SCOTLAND**

Like many recruiters during the coronavirus pandemic, Councils using the [myjobscotland](#) recruitment platform needed to continue operations whilst working remotely.

Naturally, updating processes and using video facilities was the right way forward but with tight council budgets, limited resources and concern over legal reporting requirements, finding a flexible solution that would cater for all recruiters' needs was challenging.

A total of 11 Councils signed up to use this facility and within two months 253 jobs were set up to include this feature, the result was a 70-85% reduction in both the time to offer and time to hire Key Performance Indicators .

CASE STUDY:

DIGITAL LEADERSHIP IN LOCAL GOVERNMENT: THE DIGITAL OFFICE FOR SCOTTISH LOCAL GOVERNMENT

The [Digital Office for Scottish Local Government](#) was set up in 2016 following the establishment of a partnership known as the Local Government Digital Transformation Partnership. Initially 25 of Scotland's local authorities joined the partnership, today all 32 contribute. The Digital Partnership provides a novel mechanism that allows councils to collaborate on digital transformation. The Digital Office provides a range of services such as sector-wide digital leadership, capacity building, delivers a broad range of sector-wide programmes and projects, and provides technical assurance of sector-wide digital initiatives on behalf of the partnership.

Digital Leadership and Skills is a key focus of the Digital Office's work. The aim is to help councils to improve their own capacity and capability for delivering (and sustaining) digital transformation. Councils have access to a "Digital Maturity" review service that helps councils to understand the maturity of their digital leadership and skills and helps them to develop an action plan for increasing their maturity. To support the resultant action plan, council staff have access to a number of communities of interest that can help them to develop new approaches (such as service design, data analytics, and open innovation) with access to advice, workshops, drop-in sessions, case studies, and access to relevant training (delivered in partnership with the Scottish Digital Academy).

A key benefit of the partnership is that the Digital Office provides opportunities for staff to be involved within collaborative digital projects with other councils and partner organisations. This enables better collaboration between councils, can reduce lead times, provides greater reuse and consistency, and provides staff with new professional support groups and opportunities to develop new skills and experience.

7. A Digital and Data Economy

The pandemic has underlined the importance of digital capacity and capability in ensuring a robust, inclusive, wellbeing economy with the resilience to deal with such cataclysmic disruptions. The economic vision set for green and education led recovery set out in the Advisory Group on Economic Recovery (AGER) report described the pivotal role of digital technology in this process.

Scotland's commitment to enabling access to superfast broadband for all, closing gaps in mobile provision and supporting the networks that underpin the Internet of Things provide the foundations for just a recovery. However, we can do more to ensure the quality and resilience of the networks on which businesses rely. We can encourage further investment in international connectivity to reduce our dependence on the London-Amsterdam corridor, ensure resilience throughout our networks and develop our data centre capacity in ways that create economic opportunities, enhance performance and take advantage of our natural resources to minimise the environmental impact of the power consumption they require.

Businesses across Scotland have stepped up to respond to the challenges presented by the pandemic with many adopting new digital technologies at unprecedented pace, transforming in a matter of weeks and months when it would previously have taken years. The businesses that have coped best are those who have been able to innovate: pivoting quickly to homeworking, adopting cloud computing for speed and collaborative working, using new digital platforms to access customers and to repurpose or diversify products and services.

A report (*Finding Our Feet*) by the Federation of Small Businesses in June 2020 reported that a fifth of Small to Medium Enterprises (SMEs) in Scotland had adopted new digital technologies during the pandemic. However, whilst we acknowledge the progress that has been made, there is still much work to do to ensure that every business realises the benefits of digital technologies. Failure to take advantage of existing technologies comes at a significant economic cost

Our determination to ensure that 'no one is left behind' is as much an economic as it is a social commitment. The economic cost of inaction in adopting digital technologies is significant with an ever increasing productivity divide between 'frontier' firms who adopt and benefit from digital technologies and the mass of SMEs who are not benefiting from technological advances and experience sluggish productivity. The Organisation for Economic Co-operation and Development (OECD) estimate that more than half of this divide is explained by the contrasting capacity of businesses to integrate digital technologies.

Sluggish productivity means limited economic growth, poor wage growth, depressed tax revenues and increasing income inequalities, including on a regional basis (since frontier firms are concentrated in cities). Crucially, without intervention, this polarisation of the economy is projected to get worse. If SMEs cannot adopt existing technologies, it constrains the prospect of them having the capital, strategic capacity or skills necessary to invest in far more powerful and sophisticated technologies such as Artificial Intelligence (AI), data analytics and 5G. In contrast, frontier firms

concentrated in major cities will continue to invest, train staff and grow faster and more productive.

This polarisation in the ability to embrace and successfully implement digital change is highly likely to also be reflected in the challenge of supporting businesses to embrace decarbonisation. This relationship between digitalisation and a transition to a Green Economy is central Scotland's net-zero ambitions.

Potential Actions to sustain a successful, inclusive digital and data economy

- **Expert support for SMEs:** We will double our original 2020/21 investment in the [DigitalBoost](#) programme (delivered by Business Gateway). This additional investment will be used to provide expert advice, capacity building and coaching tailored to the specific needs of businesses in particular sectors and localities and deliver pro-active sectoral and place-based interventions to target low productivity sectors and places. As part of this scheme, we will also establish a capital fund to incentivise and support SMEs to invest in the necessary software, hardware and skills.
- **Technology loans:** Through an extension of the [Digital Development Loan](#), we will enable SMEs in all sectors to adopt and optimise new digital technologies, improve their productivity, increase their reliance and grow their business.
- **Increase the digital skills talent pool:** We need to ensure we have a skilled workforce available to meet the needs of a growing digital economy. We will leverage the National Transition Training Fund wherever possible to encourage more people to take advantage of the digital skills training opportunities that we have in Scotland, in addition to continuing to support entry into digital roles through the £1m Digital Start Fund offering digital training to those who are unemployed or on a low income.
- **Increase diversity in digital roles:** This requires working with industry to tackle both short and long term skills shortages across the public sector, increasing the number of and diversity of suitable candidates, for example women and those from minority ethnic backgrounds, and increasing the number of pathways into the workplace. We must account for the implications of the pandemic for the skills and learning system, labour market and youth transitions.
- **Enabling Infrastructure:** We will work with the private sector to improve international data connections for Scotland and stimulate investment in strong connections between cities to support the growth of a green and resilient digital economy.
- **Use Scotland's data capabilities to address climate change targets:** For example by extending our Earth Observation programme to monitor peatland restoration and waste monitoring, and building on the work of our AI for Good Climate Change programme.
- **Workplace Transformation:** We will work with bodies including CivTech, CENSIS and Scottish Futures Trust to demonstrate and deliver the operational and environmental benefits of safe and secure home working, and working from remote and alternative locations. This will include work to develop and refine the new generation of collaborative digital tools we require to improve productivity and maintain social capital given the potential reduction of shared physical workspaces.

**CASE STUDY:
DATA LAB – REALISING THE ECONOMIC POTENTIAL OF DATA**

Over the last 5 years, Scotland's Innovation Centre for Data Science and AI, [the Data Lab](#), has been working with its network of over 2,000 companies, public sector organisations and universities, to make Scotland the global leader in data innovation. With a mission to help Scotland maximise value from data and lead the world to a data powered future, the Data Lab has built a range of services around Collaborative Innovation, Skills and Talent and Community.

The Data Lab has supported over 400 projects across many industries from Energy to Fintech and Transport to Tourism for businesses, public sector and the third sector. Companies The Data Lab have helped are predicting an increase in revenue of over £200m and of 750 new jobs. The Data Lab Masters programme has supported over 500 newly qualified Data Engineers, Data Scientists and AI Developers as well as supporting over 25 Industrial Doctorates helping industries in research and development and teaching over 1500 business leaders in driving value from data.

**CASE STUDY:
HELPING ALL BUSINESS TO BECOME DIGITAL BUSINESSES**

Heal Physiotherapy provides physiotherapy, podiatry and private GP services in Dundee and St Andrews.

As the effects of the coronavirus lockdown impacted on their business, the owners used the digital skills they developed by attending DigitalBoost – Scottish Government's leading digital support programme, delivered by Business Gateway – to create engaging on-line content to reach customers during the pandemic.

The skills they developed allowed them to accelerate digital development plans that were already in progress by delivering an estimated six months of work via online channels in shortened timescales. This included planning online virtual consultations; developing new systems, policies and procedures; changing administrative systems to take payments online; and engaging more on social media in attempt to attract new clients.

As a result they have completely adapted the way they do business by using video consultation in a profession where human contact was previously deemed essential. It has enabled them to keep in contact with customers and ensured that some services can take place in a virtual form.

The support and advice from Business Gateway and DigitalBoost (including digital consultancy, online training one-to-one business advice, strategic HR support and marketing to customers) has been vital for their survival, and given them a new way of looking at the services they offer.

In addition, to support wider efforts to tackle coronavirus, they are now working with local web developers to adapt the NHS screening app to make it suitable for their own use. This will help to reassure patients that when it is safe to do so, they will be able to resume face-to-face appointments.

8. A Vibrant Tech Sector

Scotland is home to a thriving tech ecosystem with over 1,500 companies that contributed £4.9bn Gross Value Added (GVA) to Scotland's economy in 2019, accounting for 3.5% of total GVA. GVA per head for the tech sector is 40% higher than for the economy as a whole, making it a considerable contributor to Scotland's economy. This success has elevated Edinburgh to the most active tech community outside London, closely followed by Glasgow in 4th place.

A vibrant Tech sector is critical to our recovery. Growing this sector gives us an opportunity to create new jobs in industries with long term growth potential and a positive impact on climate change. It also helps us to further promote our ambitions for a wellbeing economy to balance the demands to sustain the economy, whilst safeguarding social and environmental wellbeing. This approach allows us to work collaboratively with new and emerging businesses. The success of FinTech Scotland shows the impact that vibrant communities of likeminded businesses can be and we want to extend this approach still further.

The Logan Review

Scottish Government commissioned the Mark Logan Review to focus on how our tech ecosystem can be improved to give Scotland the best possible chance of generating a stronger pipeline of successful, scalable businesses. Mr Logan recently published his conclusions, outlining an ambitious strategy covering Education and Talent, Infrastructure and Funding, to establish Scotland as a leading start-up nation. It has been endorsed by key figures across business, technology and academia as potentially transformational. He identified, and we agree, the need for action. The review included the following:

- **A national network of Tech Scalers** to significantly extend the purpose and capability of traditional incubation programmes, combining the usual networking and meet-up benefits, with formal, world class start-up education tailored to sectors and stage of growth. Access to all services would be provided both physically and in a fully-virtualised form, enabling country-wide participation in Scotland's high-technology economy.
- **Proposals for improvements to teaching and learning** in Computing Science and related disciplines, including making learning more engaging e.g. by focusing more on creative projects, and significant expansion of extra-curricular activity, especially those focused on tackling gender bias.
- **At university level**, investment in increasing the number of computing science graduates, the incorporation of entrepreneurship into the computing science syllabus, cross-fertilisation of business and computing students, and development of infrastructure to support student start-ups and provide small seed investments.
- **Supporting 'social infrastructure' or a 'market square'** e.g. festivals, conferences, meet-ups and demos. It is argued that the world's best technology ecosystems depend on their social infrastructure to facilitate start-

up education, propagation of best-practice, networking, peer-support and hiring.

- **Working with the investment community** to solve funding pressures around early seed investment and the much larger sums needed at series A level.

Potential Actions to ensure a vibrant Tech sector:

- **An Innovation Ecosystem:** we back the Logan review and will work with public and private sector partners to progress its key recommendations around education, entrepreneurship and investment. This will see the introduction of a network of Tech Scalars backed by an initial £4m investment and the creation of an Ecosystem Fund that will make strategic investments in the organisations and activities that support our start-ups to succeed. Examples include investing in key tech conferences, the creation of new start-ups and extracurricular support to develop the next generation of tech talent.
- **Expanding training:** we will look at opportunities to expand specialist training to provide reskilling opportunities for people whose employment was impacted by coronavirus and need support to transition to new careers. We will also work with the Scottish Tech Army, to explore the potential for volunteering to provide a route back into high quality digital jobs
- **Attract national and international investment** in testing, developing and commercialising new products, processes and services based on the potential offered by 5G and the Internet of Things. We will deliver this in partnership with [CENSIS](#), Scotland's Innovation Centre for Internet of Things technologies; [the Scotland 5G Centre](#), Scotland's national hub for accelerating the deployment and adoption of 5G; [CivTech®](#), our public sector technology incubator; and [Scottish Enterprise](#), the body responsible for economic development, enterprise, and investment in business.
- **Create a programme of data-driven innovation** with The Data Lab, our Universities, and the digital technologies industry, to maximise the economic and environmental opportunities presented by the high-quality sources of data that we have in Scotland.
- **Promote Scotland as a European centre for Green Data Centres.** This will require us to capitalise on Scotland's abundant natural resources to promote Scotland as a European centre for green data centres to improve international and terrestrial fibre connectivity stimulate the market and incentivise commercial investment. We will deliver this in partnership with [the Scottish Futures Trust](#), Scotland's centre of infrastructure expertise; and [Scottish Development International](#), the international arm of the Scottish Government and Scotland's enterprise agencies. This development will provide employment opportunities for, and make use of the talents of, digital infrastructure engineering and management graduates emerging from our universities.
- **GovTech sector:** we will capitalise on Scotland's competitive advantage in the growing international market for GovTech. We will work in partnership with ScotlandIS, the newly formed CivTech Alliance and others to support and develop and promote this sector across the world.
- **Ensure equality of opportunity for all** to increase diversity at all levels of the workforce in the digital technologies sector; and in so doing to ensure that the sector harnesses talents from across Scotland.

- **Launch Scotland's AI Strategy in early 2021** to ensure that Scotland maximises the potential economic and social benefits of AI. The strategy will have benefit to people in Scotland as its core guiding principle and be informed by open and meaningful dialogue with the public and all stakeholders. We aspire to set the global standard for open, ethical and trusted development and application of AI, and ensure the benefits and productivity gains from AI are felt across the whole of Scotland, and that displaced workers transition into gainful employment.
- **Launch a revised Cyber Resilience Strategy** in late 2020, to include refreshed actions relating to the cyber security skills pipeline, and to our growing cyber security industry.

9. An Ethical Digital Nation

The use of data and digital technology raises important new ethical and moral questions about the kind of society we want to be. These include concerns about personal privacy and digital security, the ways in which the facts can become distorted through social media or the way in which governments work with and regulate the tech industry. We need to ensure that digital services operate to high ethical standards to protect personal privacy, give people control of their personal information and ensure transparency – candidness and transparency play a crucial role in maintaining and building trust in digital.

This reaches far beyond the borders of Scotland or the powers that we have in national and local government. The way we respond to these and other emerging issues is critical to the kind of country and society we aspire to be. To be able to influence the decisions made in international arenas requires us to be recognised internationally as an ethical digital nation and to have the confidence to engage with citizen groups, regulators, companies, academics and other governments at a global level.

Delivering this ambitious digital agenda is vital as we work manage and mitigate the considerable risks arising from EU-Exit. The Scottish Government is clear about the challenges post-Brexit barriers will create – to trading with the world’s biggest market; to attracting EU talent so vital to our technology sector’s success; to collaborating across borders on research and data-driven innovation, based on shared values, ethics and goals.

Digital platforms open up the potential for government to consult more widely, share openly and to involve people across Scotland in shaping how we grow and thrive in a Digital world. In accordance with the principles of Open Government, we will engage openly with people on issues such as privacy, ethics, and inclusion, listen to their views and act transparently so that we explain how decisions are taken and so that we are accountable for our performance.






Potential actions to enable Scotland to be recognised internationally as an ethical digital nation and boost wellbeing.








- **Set out a vision:** We will deliver a framework to support an ethical digital nation, and embed these principles in the way we design and build digital public services to ensure the public voice is at the core of how we do this. In doing this we aim to build trust that the technologies we use are designed with integrity, public benefit and are transparent. We will do this through open dialogue with the public, experts and the wider digital sector.
- **Increase community engagement and participation:** We will use digital technology to facilitate better community engagement and participation, so people can play an increased role, wherever they live in Scotland, in issues such as consultation and participatory budgeting. In doing this we will ensure that digital technology improves access to data about local needs and assets to allow communities to make informed decisions. Increasing engagement and participation will also promote wellbeing, by ensuring that people have a say in policies that matter to them.

- **Increase collaboration with other governments:** We will build on the foundations established by our membership of the Wellbeing Economy Government (WEGo) group, to take an active international role on issues such as cyber security, artificial intelligence, the regulation of technology and the organisations that provide them, tackling the climate emergency and creating smart economies based on the humane use of technology. Whilst we may lack formal powers in some of these areas, will bring a fresh, progressive, evidence based perspective to the debate facilitate greater geopolitical digital cooperation that promotes innovation, protects privacy and ensures equitable access to the benefits of technology.
- **Build public trust in the use of data:** We will provide citizens with even greater assurance that we are using their data effectively for public benefit, efficiently and safely to deliver high quality public services and government. As part of this we will further enhance our Information Governance practices, ensure that cyber resilience and cyber security principles are built into all aspects of data solutions given the need for secure data handling to increase trust and mitigate the risk of data manipulation by malicious actors.
- **Making more of our data available openly:** We will renew our focus on data which will improve transparency, open government and create economic opportunity.
- **Digital Rights:** We will make sure that all of our approaches to establishing an ethical digital nation balance digital rights with the responsibility at individual and state level to be accountable for our actions through independent scrutiny. This will ensure public benefit rather than commercial value is the driving force and that actions are transparent and outcomes are clearly established.

10. National Performance Framework alignment

The starting point of our digital strategy is the understanding that we now operate in a digital world. Our ambitions for our country remain the same, but the world in which we will achieve them is vastly different from that of the analogue era. This is demonstrated below in this table that cross references the potential actions included in this discussion document to the [National Performance Framework](#) (NPF). We would welcome comments and observations on this as part of the consultation process.

Our Priority Themes	NPF Outcomes	NPF Outcomes
<p>No one is left Behind Deliver Broadband coverage for All Improve 4G mobile coverage Digital inclusion that tackles inequality and promotes wellbeing An education system that builds digital skills</p>		<p>International - We are open, connected and make a positive contribution internationally.</p> <p>Communities - We live in communities that are inclusive, empowered, resilient and safe.</p> <p>Education - We are well-educated, skilled and able to contribute to society.</p> <p>Poverty - We tackle poverty by sharing opportunities, wealth and power more equally</p>
<p>Services working for All Transform key public services A digital third sector A joint service innovation centre Introduce user managed digital identities A digital service hub Adopt common digital and data standards Protect and create value from Scotland's data Accessibility</p>		<p>Communities - We live in communities that are inclusive, empowered, resilient and safe.</p> <p>Health - We are healthy and active</p> <p>Culture - We are creative and our vibrant and diverse cultures are expressed and enjoyed widely</p>
<p>Transforming Government Changing our culture with open government Drive in efficiency to create more capacity for frontline service delivery A single shared digital academy A new commercial model Digital democracy</p>		<p>Culture - We are creative and our vibrant and diverse cultures are expressed and enjoyed widely</p> <p>Education - We are well-educated, skilled and able to contribute to society.</p> <p>Environment - We value, enjoy, protect and enhance our environment</p>
<p>A Digital and Data Economy Expert support for SMEs: Digital Boost Technology loans: Increase the digital skills talent pool Increase diversity in digital roles the growth of a green and resilient digital economy. Use Scotland's data capabilities to address climate change targets Workplace Transformation</p>		<p>Economy - We have a globally competitive, entrepreneurial, inclusive and sustainable economy.</p> <p>Environment - We value, enjoy, protect and enhance our environment</p> <p>Culture - We are creative and our vibrant and diverse cultures are expressed and enjoyed widely</p>
<p>A Vibrant Tech Sector An innovative ecosystem Attract international investment</p>		<p>Economy - We have a globally competitive, entrepreneurial, inclusive and sustainable economy.</p>

	<p>Create a programme of data driven innovation Promote Scotland as a European centre for Green Data Centres Ensure equality of opportunity for all – diversity and inclusion in the workforce Launch Scotland’s AI Strategy</p>	  	<p>Environment - We value, enjoy, protect and enhance our environment</p> <p>Education - We are well-educated, skilled and able to contribute to society.</p> <p>Fair Work & Business - We have thriving and innovative businesses, with quality jobs and fair work for everyone</p>
	<p>An Ethical Digital Nation Ethical digital nation framework Increase community engagement and participation Increase collaboration with other governments Build public trust in the use of data Open data Digital Rights</p>	   	<p>Human Rights - We respect, protect and fulfil human rights and live free from discrimination</p> <p>Children & Young People - We grow up loved, safe and respected so that we realise our full potential.</p> <p>International - We are open, connected and make a positive contribution internationally.</p> <p>Communities - We live in communities that are inclusive, empowered, resilient and safe.</p>

11. Next Steps

We are seeking views and input to this discussion document throughout the autumn of 2020. We will analyse and consider all responses, after which an updated Digital Strategy for Scotland will be published. Views can be contributed through <http://www.consult.gov.scot/>, or through the events we will hold during the consultation period.

Case Studies: We are currently gathering case studies for inclusion in the final strategy in order to demonstrate and evidence value and impact of digital technologies, whether as a result of the coronavirus pandemic or otherwise. If you have examples of how digital technologies and data have delivered improvements – for **people**, for **businesses**, for **communities**, and for **Scotland**, please do feel free to send them to us.

12. Responding to this Consultation

We are inviting responses to this consultation by 24 December 2020.

Please respond to this consultation using the Scottish Government's consultation hub, Citizen Space (<http://consult.gov.scot>). Access and respond to this consultation online at <https://consult.gov.scot/digital-directorate/digital-strategy-for-scotland/>. You can save and return to your responses while the consultation is still open. Please ensure that consultation responses are submitted before the closing date of 24 December.

If you are unable to respond using our consultation hub, please complete the Respondent Information Form to:

Strategy and Communications Team
Digital Directorate
Scottish Government
1 G South
Victoria Quay
Edinburgh EH6 6QQ

Handling your response

If you respond using the consultation hub, you will be directed to the About You page before submitting your response. Please indicate how you wish your response to be handled and, in particular, whether you are content for your response to be published. If you ask for your response not to be published, we will regard it as confidential, and we will treat it accordingly.

All respondents should be aware that the Scottish Government is subject to the provisions of the Freedom of Information (Scotland) Act 2002 and would therefore have to consider any request made to it under the Act for information relating to responses made to this consultation exercise.

If you are unable to respond via Citizen Space, please complete and return the Respondent Information Form included in this document.

To find out how we handle your personal data, please see our privacy policy: <https://www.gov.scot/privacy/>.

Next steps in the process

Where respondents have given permission for their response to be made public, and after we have checked that they contain no potentially defamatory material, responses will be made available to the public at <http://consult.gov.scot>. If you use the consultation hub to respond, you will receive a copy of your response via email.

Following the closing date, all responses will be analysed and considered along with any other available evidence to help us. Responses will be published where we have been given permission to do so. An analysis report will also be made available.

Comments and complaints

If you have any comments about how this consultation exercise has been conducted, please send them to digitalstrategyconsultation@gov.scot or to the contact address above.

Scottish Government consultation process

Consultation is an essential part of the policymaking process. It gives us the opportunity to consider your opinion and expertise on a proposed area of work.

You can find all our consultations online: <http://consult.gov.scot>. Each consultation details the issues under consideration, as well as a way for you to give us your views, either online, by email or by post.

Responses will be analysed and used as part of the decision making process, along with a range of other available information and evidence. We will publish a report of this analysis for every consultation. Depending on the nature of the consultation exercise the responses received may:

- indicate the need for policy development or review
- inform the development of a particular policy
- help decisions to be made between alternative policy proposals
- be used to finalise legislation before it is implemented

While details of particular circumstances described in a response to a consultation exercise may usefully inform the policy process, consultation exercises cannot address individual concerns and comments, which should be directed to the relevant public body.



RENEWING SCOTLAND'S FULL POTENTIAL IN A DIGITAL WORLD: UPDATING THE DIGITAL STRATEGY FOR SCOTLAND

RESPONDENT INFORMATION FORM

Please Note this form **must** be completed and returned with your response.

To find out how we handle your personal data, please see our privacy policy:
<https://www.gov.scot/privacy/>.

Are you responding as an individual or an organisation?

- Individual
 Organisation

Full name or organisation's name

Phone number

Address

Postcode

Email

The Scottish Government would like your permission to publish your consultation response. Please indicate your publishing preference:

- Publish response with name
 Publish response only (without name)

Information for organisations:

The option 'Publish response only (without name)' is available for individual respondents only. If this option is selected, the organisation name will still be published.

If you choose the option 'Do not publish response', your organisation name may still be listed as having responded to the consultation in, for example, the analysis report.

Do not publish response

We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for Scottish Government to contact you again in relation to this consultation exercise?

Yes

No



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Riaghaltas na h-Alba
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