Scotland's Digital Future
First Annual Progress Report and Update – 2012

The Scottish Government
Riaghaltas na h-Alba
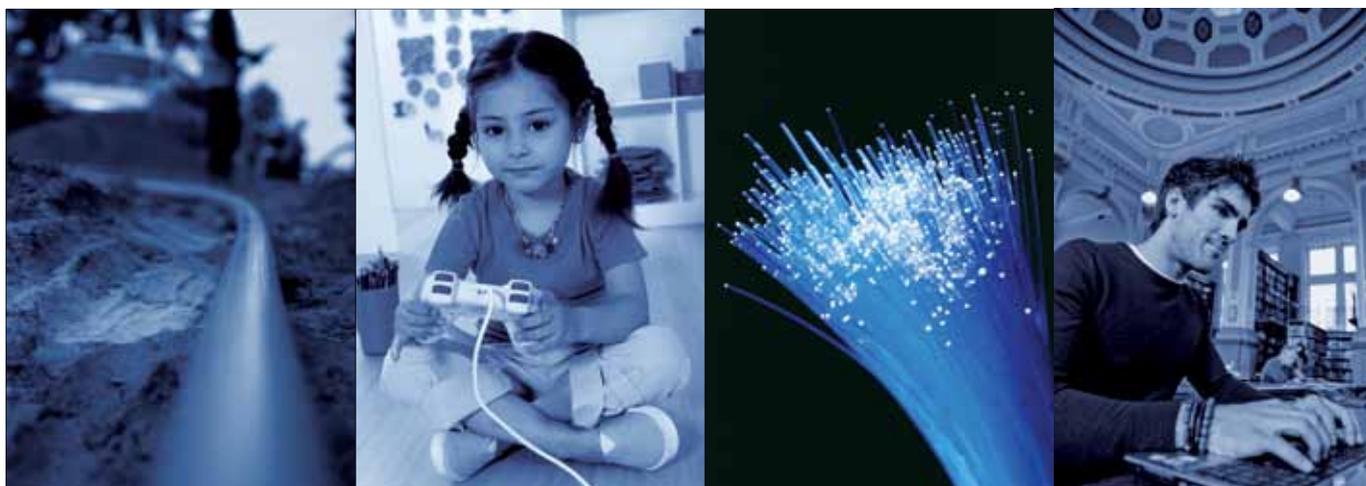
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1 Ministerial Foreword

http://www.youtube.com/
watch?v=-7kZj9E3zMI

This first strategy update reports on the progress made against the actions set out in *Scotland's Digital Future: A Strategy for Scotland* (March 2011). As well as highlighting our recent achievements, it sets out the actions that are required in the next 12–18 months to ensure that everyone in Scotland is well positioned to take advantage of all of the opportunities of the digital age.

I am pleased to report that significant progress has been made across all four work streams set out in Scotland's Digital Future.

All of the 28 actions detailed in the strategy have either been achieved or are well on their way to being delivered.

A good deal of our initial focus has been on the provision of digital infrastructure following the publication of the *Infrastructure Action Plan* in January 2012. This set out our ambition to deliver a world-class digital infrastructure for Scotland by 2020 and charted the steps in between to address the digital divide and significantly improve coverage and speed across Scotland by 2015. This ambitious, national procurement programme remains on track and is a vital enabler of vibrant, dynamic and economically active communities in both urban and rural locations.

Whilst building high quality infrastructure remains a key priority, this update provides an opportunity to focus more explicitly on the benefits that can be derived in Scotland

by fully exploiting the digital opportunity. Some of these benefits were highlighted recently when my colleague John Swinney launched *Scotland's Digital Future – Delivery of Public Services strategy*. This describes how digital technology will provide the foundation for integrated public services that cross organisational boundaries and that can be delivered in ways that can both improve quality and produce savings for the public purse.

I am also clear that whilst the Scottish Government must continue to provide strong leadership for our digital strategy, we will only deliver the benefits that the Scottish people and Scottish businesses expect, if our vision, and the actions to deliver that vision, are shared and owned by all sections of our economy and society.

The Scottish Government's refreshed Economic Strategy points to "the need to work collaboratively to optimise growth for the benefit of the whole of Scotland." We are already seeing this Team Scotland approach bear fruit in the approach that Scotland's cities are taking to enhance digital connectivity across and between our cities.

We all need to feel a sense of shared ownership for delivering a Digital Scotland. That is why I have invited people outside of government to contribute to this document, sharing their own views on the kind of Digital Scotland we might become and the role they will play in making it happen.

1 Ministerial Foreword

It's also why I am determined to ensure that we embark on an ongoing, honest and productive discussion about *Scotland's Digital Future* that enables us to take an adaptive approach to our work in this area, to respond to fresh ideas and to feedback and communicate the progress that is being made.

Nicola Sturgeon MSP
Deputy First Minister and Cabinet Secretary for Infrastructure, Investment and Cities

2 Introduction

The Changing Landscape

Since *Scotland's Digital Future* was published in March 2011, the use of digital technology and the opportunities that such technologies provide have continued to move on at a rapid pace.

Mobile devices such as smart phones and tablets are becoming increasingly popular[1] and demand for internet-connected devices such as Smart TVs, games consoles and Blu-ray players is continuing to boom. Social networking is all pervasive and impacting on our lives to such an extent that the recent Olympic Games were dubbed the first 'Twitterlympics' because of the numbers of people who followed high-profile athletes and commented on the success of our athletic stars[2]. The recent Scottish Household Survey found that the proportion of people accessing the internet on the move, for example on a mobile phone, increased from 7% in 2009/2010 to 14% in 2011[3].

Approach

Scotland's Digital Future outlined our digital ambition for Scotland:

> That next generation broadband will be available to all by 2020 with significant progress by 2015; and

> That the rate of broadband uptake by people in Scotland should be at or above the UK average by 2013, and should be highest among the UK nations by 2015.

This document provides an update on the progress that has been to date, describes how we are responding to the fast-moving digital environment and, in so doing, revisits and refines the actions we are taking to ensure that Scotland is well positioned to take full advantage of the digital age. It sets out an integrated approach with actions that will:
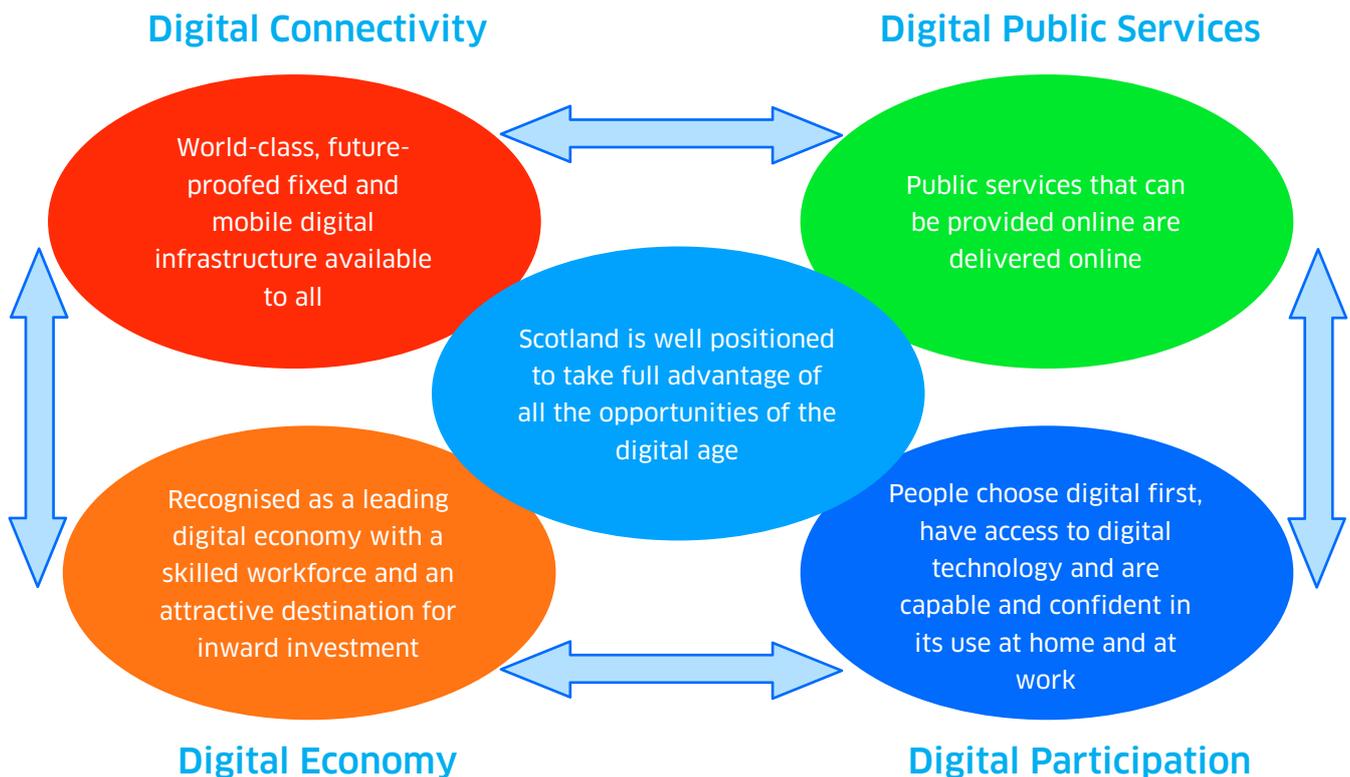
> Provide Scotland with a step change in the extent and quality of its digital infrastructure;

> Grow levels of digital participation by businesses and individuals;

> Stimulate the digital economy; and

> Deliver high quality public services through digital channels.

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1   According to a recent study undertaken by Google Smartphone, penetration is now at 51% in the UK and tablet usage also continues to grow with an 11% increase in the UK. http://www.thinkwithgoogle.com/insights/library/studies/trends-in-digital-device-and-internet-usage-2012/
2   This reached a peak of 46,000 tweets per hour during the opening ceremony on 27 July 2012.
3   Scotland's People Annual Report: Results from 2011 Scottish Household Survey – Chapter 9 – Internet

2 Introduction

Digital Connectivity

World-class, future-proofed fixed and mobile digital infrastructure available to all

Digital Public Services

Public services that can be provided online are delivered online

Scotland is well positioned to take full advantage of all the opportunities of the digital age

Digital Economy

Recognised as a leading digital economy with a skilled workforce and an attractive destination for inward investment

Digital Participation

People choose digital first, have access to digital technology and are capable and confident in its use at home and at work

Looking Ahead

Whilst nobody can predict the future of digital technologies with absolute certainty, this strategy will ensure that, by 2020, Scotland will have a world-class, future-proofed digital infrastructure that enables everyone, regardless of where they live, to get online and connect with people; access a wide range of essential public services; grow their business; and enjoy a wide range of on-demand entertainment options. Our people will feel confident in their ability to use digital technology to improve their personal and working lives.

Throughout this document you will hear from people who are already playing their part in delivering a Digital Scotland express their views about what this means to them.

We are also interested in hearing your views.

Get involved in discussing Digital Scotland by following us on Twitter @digitalscots, e-mailing us at digitalscotland@scotland.gsi.gov.uk and by checking Scotland's Digital Future website at http://www.scotland.gov.uk/Topics/Economy/digital.

3 Summary of Progress

DIGITAL INFRASTRUCTURE

Published *Scotland's Digital Future – Infrastructure Action Plan* in January 2012 and the *Step Change 2015 Procurement Plan* in May 2012 setting out how we will deliver **world-class digital connectivity for Scotland by 2020 with a step change in speed and coverage by 2015**.

Secured an additional £32 million of UK Government funding for Next Generation Broadband resulting in a national fund of over £240 million.

Reached the final stages of a procurement to deliver Next Generation Broadband across the Highlands and Islands following an intense period of competitive dialogue.

Commenced the procurement of a second contract, to be awarded in the first half of next year, to provide a significant improvement to digital infrastructure across the rest of Scotland by 2015.

Launched the Community Broadband Scotland Programme to enable local communities to take positive action to deliver connectivity within their communities.

Lobbied the UK Government and Ofcom successfully on 4G Spectrum to improve the levels of 4G coverage in Scotland that will be delivered following the forthcoming spectrum auction.

DIGITAL PUBLIC SERVICES

Published *Scotland's Digital Future – Digital Public Services* in September 2012, a strategy and action plan for using digital technologies to enable the redesign of services to better meet people's needs, reduce the cost of services to users and providers and manage data in a way that supports businesses and contributes to economic growth.

http://www.scotland.gov.uk/publications/2012/09/6272

Launched a **DirectScot** prototype in January 2012 to provide a single access point for public sector information and services. The consultation received a very positive response with 87% agreeing we should develop DirectScot to become a full web service.

Published Scotland's **e-health strategy** on 12 September 2011 which demonstrates how technology will support people to communicate with the NHS, contribute to care integration; improve medicines safety; enhance the availability of information for staff and improve the efficiency of working practices.

http://www.scotland.gov.uk/Publications/2011/09/09103110/0

Made good progress through The National Records of Scotland and the National Library of Scotland in ensuring that we preserve our digital assets, including the development of expertise in technical areas such as digital signatures.

3 Summary of Progress

DIGITAL ECONOMY

Technology accounts for a significant proportion of Foreign Direct Investment (FDI) employment in the UK. Ernst & Young European Investment Monitor 2011 shows that Scotland has secured a much higher share of this investment. The strength of our university sector and skills base are two key reasons for this.

The proportion of businesses in Scotland trading online is broadly in line with the UK which is emerging as a world leader in per capita levels of e-commerce and online advertising.

Scottish Enterprise specialists supported almost 500 companies in 2011-12 – more than 300 of which received grant funding totalling £2 million.

Highlands and Islands Enterprise launched the £800,000 ICT Business Engagement Programme in March 2012 to promote the inclusion of enabling technology in business growth plans.

Enterprise agencies have run a series of awareness and support events focusing on social media and digital marketing.

Continued to develop Scotland's reputation in research linked to the digital economy.

DIGITAL PARTICIPATION

Launched the Digital Participation Charter following the successful Govcamp event.

Established the Digital Participation Action Group (DPAG) with enthusiastic support and engagement from leading organisations in Scotland's business, public, academic and third sectors.

Initial projects under way under the auspices of DPAG to promote youth employability and encourage participation amongst older age groups.

Participation rates in Scotland now equal Wales and Northern Ireland.

Libraries supporting people all over Scotland to get online.

Highlands and Islands Enterprise delivered Digital Showcase 2012 to help people and businesses to get online – **http://www.hie.co.uk/about-hie/events/archive/22-08-2012-digital-showcase-event.html**

Scotland's 'Learning ICT' programme is helping to ensure that our young people have access to up-to-date digital skills.

4 Building Digital Connectivity Fit for the Future

Progress to Date

Infrastructure Action Plan

Our analysis suggests that around half of premises in Scotland are in postcodes where high speed broadband is currently available (speeds of at least 24 Mbps). In the absence of public sector intervention, the market will deliver next generation broadband to around 67% of premises in Scotland by 2014; however, this coverage will be concentrated mainly within the most populated areas.

In January 2012, we published *Scotland's Digital Future Infrastructure Action Plan*[4] setting out our commitment to a world-class, future-proofed infrastructure that will deliver digital connectivity (fixed and mobile) across the whole of Scotland by 2020 with a step change in speed and coverage by 2015.

The development of the action plan took account of the views of industry, leading academics, local government representatives and the enterprise agencies as well as considering evidence from other countries. The plan was also supported by detailed analytical and modelling work to extent of current and planned broadband coverage, local priorities, the opportunities to maximise the benefits of existing public sector infrastructure and the potential costs of delivering improvements to digital infrastructure across Scotland.

So far, the public sector has secured over £240 million for delivery of next generation broadband in Scotland, including an increased allocation from the UK Government's £530 million central funding pot. The Scottish share was increased in June 2012 from £68.8 million (the original allocation) to £100.8 million following successful, lengthy negotiations with the UK Government for a funding allocation

which more accurately reflects the significant challenges of delivering in Scotland.

Step Change 2015

The first programme, Step Change 2015, will significantly enhance digital connectivity by 2015 and is essential to bridge the digital divide in coverage that exists today, particularly between urban and rural areas. The programme aims to deliver an infrastructure that will have the capacity to deliver speeds of 40-80 Mbps for between 85% and 90% of premises, with a significant uplift in speeds for those where delivery of 40-80 Mbps is not possible at this stage, including those areas where there is currently no level of service.

The *Step Change 2015 – Procurement Plan*[5], published on 25 May 2012, describes two related procurement exercises, one in the Highlands and Islands, the other in the rest of Scotland that will deliver this step change across the country.

The first of these procurements is being led by Highlands and Islands Enterprise. The process is entering the final stages and HIE expect to finalise the contract award by the end of 2012, with work starting next year. It is anticipated that the contract will include action to lay sub-sea cables in order to bring next generation broadband to many areas for the first time. The second project, which will improve access to next generation broadband across the rest of Scotland began, on schedule, in September 2012 and will award a contract in the first half of 2013. http://www.scotland.gov.uk/Publications/2012/10/9941

Step Change 2015 is designed to underpin sustainable economic growth in the digital economy. According to our most recent economic analysis, public sector intervention in next generation broadband will create or protect a significant number of jobs including:

4 Scotland's digital Future - Infrastructure Action Plan (Jan 2012)
5 Step Change 2015 - Procurement Plan (May 2012)

4 Building Digital Connectivity Fit for the Future

> an average of over 800 direct jobs during the 5-year network installation phase

> an average of another 70 direct jobs to operate the network over a 15-year period.

We also expect that almost 14,000 indirect jobs will be created over the same 15-year period.

The Programme Board which oversees the deployment of Step Change 2015 includes representatives from CoSLA and a number of Local Authority Chief Executives. This collaborative approach has resulted in a broad agreement that the national fund to deliver Step Change 2015 should be used to deliver a common, minimum level of coverage in each local authority area while seeking to meet the overall national target. It has been further agreed that it is then for individual local authorities to determine whether and how they may wish to extend that level of coverage and that funds contributed by a particular local authority are used solely to fund improvements in that Council area.

Meetings with individual authorities are well under way to gather information on their plans and priorities and to share and develop an understanding of what will be delivered in their area through the national programme. This will also support individual authorities in their consideration of whether they may wish to make a financial contribution to enhance the level of coverage that can be delivered in their area.

Demonstrating Digital

The former Cabinet Secretary for Infrastructure and Capital Investment launched **Community Broadband Scotland (CBS)** on 8 August 2012. This is a national programme, developed and delivered in partnership between national and

Alex Neil MSP, Cabinet Secretary for Infrastructure and Capital Investment launching Community Broadband Scotland at Elvanfoot, South Lanarkshire, on 8 August 2012.

local agencies for those communities who want to go further and faster in delivering better coverage in their area. CBS will provide a one-stop-shop for all community broadband enquiries; empowering communities to develop tailored solutions to meet their requirements. £5 million has been committed over the next three years in support of the programme.

A range of support will be delivered through CBS – online advice, guidance and toolkits; a telephone helpline; a network of staff on the ground delivering hands-on advice and support to communities; and a Rural Seed Fund.

The Seed Fund will support communities that are least likely to benefit from a next generation solution under the Step Change 2015 programme. The CBS team will work closely with these communities to help them identify and implement broadband solutions for their area, enabling faster progress, as well as trialling new technologies, solutions and business models.

The website and telephone helpline will go live in October. At that time, we will also announce the first community projects to receive Seed

4 Building Digital Connectivity Fit for the Future

Fund support. These will be selected by CBS partners, with subsequent funding rounds open to applications from rural and remote communities across Scotland.

Community Broadband Scotland will be a valuable resource for communities across Scotland. The Seed Fund is just one element of a package of support, reflecting the fact that, for many communities, getting access to the right advice and guidance is often more important than funding. The initiative will allow communities to take greater ownership and play a central role in securing the broadband services they need, and will deliver significant benefits to local and rural economies.

Mobile Infrastructure

If our world-class aspirations are to be fully realised, we will also need a step change in mobile coverage and performance across Scotland.

The forthcoming fourth-generation (4G) spectrum auctions offer an opportunity to deliver significant improvements to mobile services. The Scottish Government successfully argued for greater 4G coverage and for a defined Scottish coverage target.

Ofcom have now confirmed an indoor coverage obligation for the UK as a whole (98%) and for Scotland (95%) by 2017. This is a considerable improvement on the original targets proposed by Ofcom in 2011, and one that will extend 4G services across Scotland. The auction process will kick off later this year, with 4G services expected to be available later in 2013.

We are keen to see early deployment of 4G in Scotland and supported Ofcom's proposal to allow Everything Everywhere (the company behind Orange and T-Mobile in the UK) to deliver 4G services using its current spectrum

holdings. This should deliver early benefits for Scottish communities and we will be taking steps to explore these opportunities.

We are also working with the UK Government, to secure the best possible outcome for Scotland from the £150 million *Mobile Infrastructure Project* (MIP). MIP's aim is to increase voice coverage to 99% (UK-wide) through deployment of additional masts between 2013-2015. The extent to which Scotland will benefit will not be clear until procurement completes in December 2012, but MIP offers an important opportunity to address the coverage and performance issues affecting parts of Scotland.

To illustrate the extent of the challenge, and to help the UK Government target their investment most effectively in Scotland, the Scottish Government has carried out a study to assess mobile coverage and performance issues in Scotland. The results of this study will be published shortly and will form the basis of future discussions with UK Government, Ofcom and the mobile operators about improving mobile coverage across our country.

Making a Difference

http://www.youtube.com/watch?v=qvgk TyNfvv8&feature=em-share_video_user

The three examples described below illustrate the impact that improvements in digital infra-structure are already making across Scotland.

Edinburgh – Glasgow Trains

A trial has run for the last three months and passenger usage has grown with robust connections and download speeds being noted. The trial has enabled ScotRail to understand the practical nature of installation along with operational issues. This will provide a sound basis for future installation programmes across other fleets.

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Although only publicised as being available on this route, on-train usage has also been noted in other areas where the fleet has operated. In addition, tests have also been carried out on other parts of the network to identify mobile signal strengths, given the particular challenges that railway routes offer in terms of remoteness, tunnels and cuttings. This will inform decisions on where signal infilling equipment may be needed in the future.

'Better Broadband for Whitsome'

The 'Better Broadband for Whitsome' project attracted £100,000 of funding from the Scottish Government's LEADER Broadband Challenge Fund and will soon be fully operational.

The aim of the project is to improve the standard of broadband to the Whitsome community in the Scottish Borders, by upgrading the local telephone exchange to Full Platform ADSL. The local exchange is currently only able to offer broadband services at a speed of 512 kbps. The upgrade will enable speeds of up to 8 Mbps and is expected to benefit approximately 130 houses, 15 micro businesses and one social enterprise served by the Whitsome exchange – an estimated 264 individual beneficiaries in total.

The project has been driven by community need and evidenced by a community consultation exercise that helped establish that respondents felt disadvantaged by living in a rural area on account of an internet connection which the vast majority believed to be poor or very poor. All respondents to the survey agreed that having better quality broadband would be beneficial to them and to the community as a whole.

Annan Pilot

The Scottish Government has provided funding of nearly £240,000 to a pilot project in Annan which will use the public sector Pathfinder network to provide next generation broadband services to households and businesses.

The project will launch in early October 2012 and is also supported by £50,000 from Dumfries and Galloway Council. Seventy businesses and residences around Annan have agreed to take part in the project which hopes to encourage wider use of broadband connections and promote digital participation. The project team will also test how superfast broadband can be brought to rural areas efficiently.

People in Annan have already given their views on what they expect from broadband in the town, and the results of a survey – which was organised by the Annan Next Generation Broadband Project – have been published.

People who replied said that the biggest improvement they want to see is the speed of downloading from the internet. 82% of people want faster broadband in the town, followed by faster uploads at 61%.

Many respondents were interested in receiving new services including local TV, paying for council services online and video on demand. However, some people were not interested in new uses, but would be happy if they could get a decent connection and speed, especially those using the internet for their business.

4 Building Digital Connectivity Fit for the Future

Kinmuck

Householders and businesses in and around the Aberdeenshire village of Kinmuck can now enjoy access to high-speed wireless broadband.

Previously, many Kinmuck residents could only access a very limited fixed-line broadband service owing to the distance from the local exchange. Some premises were served by the Digital Access Carrier System (DACS), a technology that allows two telephone lines to go down a single copper pair and back to the telephone exchange. Typically a DACS solution provided a telephone connection if no full spare lines were available or if there was a problem with another line and users had to share. This meant that it was impossible to provide a broadband service.

With support from Aberdeenshire LEADER, the Scottish Government and the Big Lottery Fund, the Kinmuck project is now delivering stable broadband services of up to 10 Mbps to around 40 premises, with a growing waiting list. Subscribers are currently offered a sliding scale of packages, from 5 Mbps to 10 Mbps download speed, but further improvements to backhaul provision will bring significantly faster services across the network, with speeds of up to 20 Mbps. Caleycom plan to enable next generation broadband speeds across the whole network by Q2 2013, and are developing a funding model to support this.

Going Further Faster

World Class 2020

http://www.youtube.com/watch?v= DlVvCLfmy EI&feature=em-share_video_user

The *Infrastructure Action Plan* makes clear that delivery of world-class digital infrastructure by 2020 will require the right technical input, partnerships and commercial and financial models to be in place to deliver this ambitious vision for Scotland. This requires an expert team with the contacts and experience to help us formulate new approaches and tap into international expertise and finance. That team is now in place.

Scotland wants to be recognised as a country that welcomes and encourages the introduction of new mobile and wireless technologies as a potential stimulus to economic growth. We will begin this process with a series of demonstration and pilot projects in the coming months that showcase innovative solutions and technologies.

Demonstration projects are short term, portable and are about showcasing different technologies, potentially covering a rolling programme of locations in the form of a 'Road-Show'.

Pilot projects are more in-depth, typically with between 20-100 users, trialling different commercial models and innovative digital technologies, in situ, in homes or businesses. It is proposed that there will be a spread of projects across a number of city and rural locations which could include a range of technology options such as wireless, free space optics and 4G.

4 Building Digital Connectivity Fit for the Future

The key purpose of these projects is to:

> Demonstrate potential commercial and technical solutions that could be rolled out on a larger/national scale across Scotland under World Class 2020, or solutions that could be delivered using the fibre backhaul put in place during Step Change 2015;

> Showcase the future of the digital economy and key global trends – both in terms of technology, coverage and speed;

> Help raise the profile of Scotland's world-class digital ambitions with key national and international players to stimulate the market for future investment;

> Encourage sharing of infrastructure and approaches by taking a supplier neutral approach and encouraging partnerships between industry, academia and government;

> Attracting inward investment from, and opportunities for, key global players not currently in the Scottish/UK market.

Links to projects being undertaken as part of Community Broadband Scotland and the UK's Urban Broadband Fund will be made. In addition, the Scottish Cities Alliance has set out digital as one of their top priorities and this work will be taken forward in collaboration with the Cities Digital Connectivity Programme.
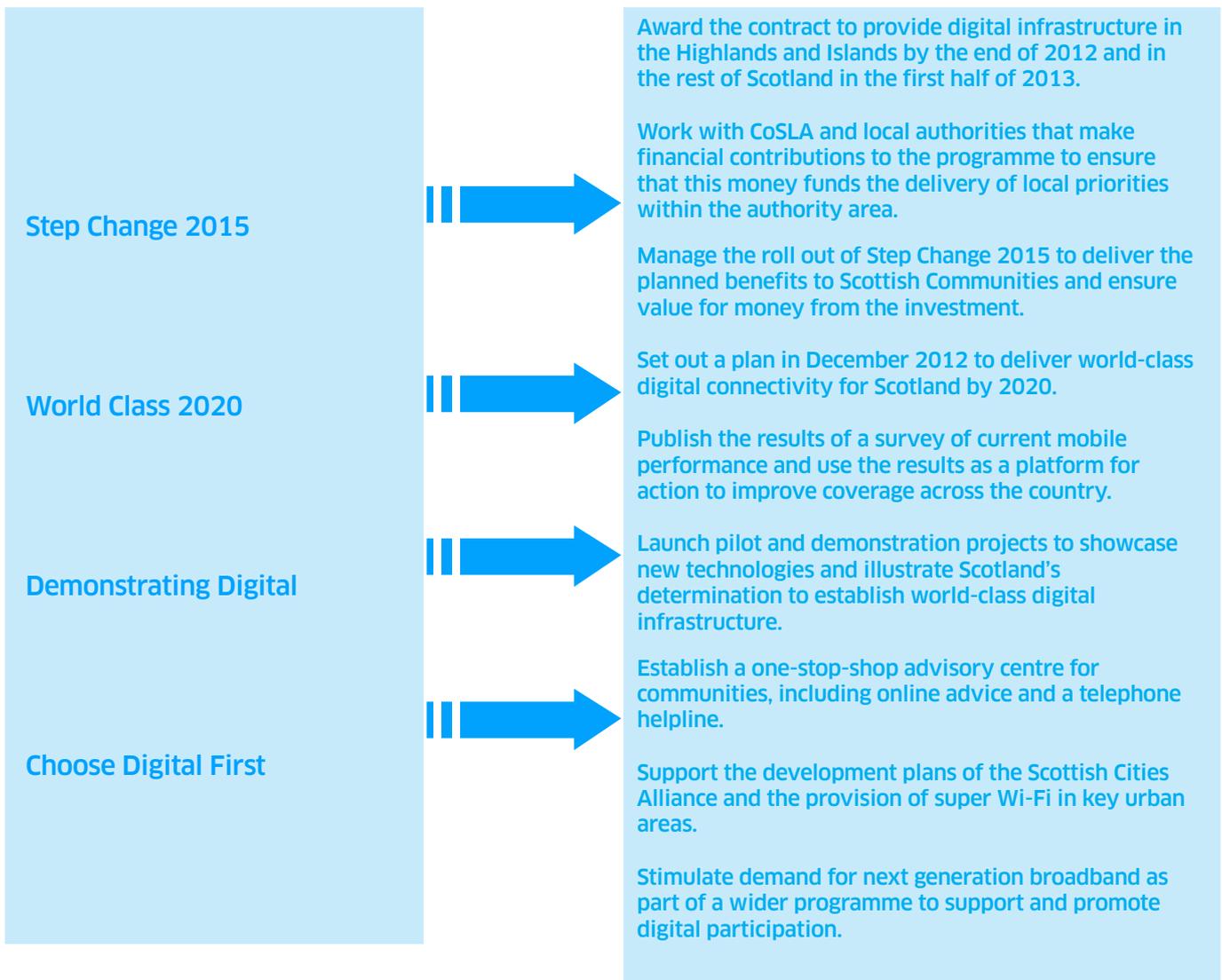
The Scottish Government has recruited two Telecoms Project Managers to lead the design, development, delivery and management of a number of demonstration and pilot infrastructure projects. The Project Managers are telecoms industry specialists with substantial project management experience. They have particular strengths in mobile, wireless and free space optic technologies.

In December, we will publish our plan for ensuring that Scotland builds on its Step Change fibre network to deliver and secure the benefits from a world-class digital infrastructure by 2020. The initial proposals, which will then be discussed and debated with stakeholders in order to refine our ideas and build a coalition of active supporters will address how we can:

> Learn from the experience of the current world leaders like South Korea, Sweden and Lithuania;

> Develop innovative delivery and commercial models, including ways of funding and financing the delivery of infrastructure;

> Make best use of the backhaul provided by existing and planned infrastructure, both public and private sector funded;

> Take advantage of potential regulatory and legislative levers, including the additional opportunities that could be available in future;

> Further improve the attractiveness of Scotland as a place where infrastructure companies want to invest as a result of mass market demand stimulation and a receptive business environment built upon a positive partnership between national and local government.

4 Building Digital Connectivity Fit for the Future

Key Actions – Digital Infrastructure

Step Change 2015

Award the contract to provide digital infrastructure in the Highlands and Islands by the end of 2012 and in the rest of Scotland in the first half of 2013.

Work with CoSLA and local authorities that make financial contributions to the programme to ensure that this money funds the delivery of local priorities within the authority area.

Manage the roll out of Step Change 2015 to deliver the planned benefits to Scottish Communities and ensure value for money from the investment.

World Class 2020

Set out a plan in December 2012 to deliver world-class digital connectivity for Scotland by 2020.

Publish the results of a survey of current mobile performance and use the results as a platform for action to improve coverage across the country.

Demonstrating Digital

Launch pilot and demonstration projects to showcase new technologies and illustrate Scotland's determination to establish world-class digital infrastructure.

Choose Digital First

Establish a one-stop-shop advisory centre for communities, including online advice and a telephone helpline.

Support the development plans of the Scottish Cities Alliance and the provision of super Wi-Fi in key urban areas.

Stimulate demand for next generation broadband as part of a wider programme to support and promote digital participation.

5 Delivery of Public Services

Progress to Date

Scotland's Digital Future – Digital Public Services

Scotland's Digital Future – Delivery of Public Services strategy was published on 19 September 2012. The strategy sets out a vision for a Scotland in which digital technology provides a foundation for integrated public services that cross organisation boundaries and deliver to those most in need, and for services for business that promote growth.

The strategy commits to a 'digital first' approach; that means that organisations will deliver online everything that can be delivered online. An approach of common standards and interoperability will facilitate collaboration, locally, nationally and internationally. Our aim is also to have a workforce that is motivated and skilled in using digital technologies and gains recognition for doing so. The public sector will collaborate in procurement of ICT with re-use as a first principle to avoid unnecessary duplication and so reduce purchase and running costs.

Assisted Living in the Digital Age – eHealth and Telehealthcare

This Government's eHealth strategy published in 2011, outlined how digital technology will enable patients to become more directly involved in the design and management of their individual care and provided a framework within which NHS Boards across Scotland are agreeing outcome-based eHealth plans. The Scottish Centre for Telehealth and Telecare was established formally within NHS 24 in April 2011 to provide a strengthened focus and drive for the development of Telehealth and Telecare on a national basis. This has resulted in the development of a draft telecare strategy for 2012-2015[6] which is currently being considered and developed in conjunction with partners across health and social care. It provides continued strategic direction for the use of Telehealth and Telecare within Health, Social Care and Housing in Scotland and will be underpinned by an Implementation Plan for Telehealth and Telecare to 2015.

The importance of this work was underlined earlier this year when Nicola Sturgeon, Deputy First Minister, met the Vice President of the European Commission, Neelie Kroes, to discuss Scotland's success with making Telecare and Telehealth services available to more than 40,000 people. Vice President Kroes recognised the importance of making these services available across Europe and welcomed the further investment in Scotland to ensure the benefits of e-Health can be available to all[7].

Cyber Security

The Scottish Government regards the preservation of trust, security and privacy as an inherent part of the development of digital public services rather than a limitation on their roll-out. On 22 May 2012, at the Scottish eCrime Summit, the Justice Secretary formally announced the development of a Scottish Cyber Security Action Plan and identified Fergus Ewing MSP, Minister for Energy,

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6 Telehealth and Telecare: Towards 2020 - *Improving, Integrating, Empowering & Innovating*
7 See Neelie Kroes' blog at http://blogs.ec.europa.eu/neelie-kroes/ehealth-sturgeon/

5 Delivery of Public Services

Enterprise and Tourism as the ministerial lead for Cyber Security in Scotland. The Minister is being supported by a Resilience Advisory Board for Scotland, chaired by Professor Muffy Calder, Chief Scientific Advisor to the Scottish Government, and including representatives from the Scottish Government, Police and Scottish Enterprise.

This group will be responsible for developing the Scottish Cyber Security Action Plan.

Scotland's Digital Assets

The National Records of Scotland and the National Library of Scotland have made good progress in developing strategies to deal with the challenges of preserving our digital assets. These organisations will continue to lead on this, building on their expertise in this area, to ensure that Scotland's public digital assets are well managed and accessible to the people of Scotland. They are developing expertise in technical areas such as digital signatures which will support future delivery of digital public services.

Making a Difference

The examples below illustrate the way in which digital technologies are beginning to transform lives and make public services and public information more accessible to all.

http://www.digitalstorylibrary.scot.nhs.uk/user/storyDetails.aspx?storyID=122

Clinical Portals

Clinical portals are now regarded as a standard tool for clinical engagements with patients within many of Scotland's NHS Boards. They provide comprehensive access to clinical systems and information to support excellent and safe patient care and in secondary care, they enable the clinician to access electronic patient records in a timely and effective manner. The NHS Greater Glasgow and Clyde portal, for example, now has over 17,000 users and enables around 390,000 documents (results, letters assessments etc.) to be accessed every week. Most users are in the acute sector with around 2,000 in the community. Golden Jubilee has rolled out its portal to around 80% of its staff. Feedback has been extremely positive and has led to the set up of links direct to journals.

Living It Up

"Living it Up" (LiU) is an example of applying different technologies to support people to stay in their own homes. LiU is a consortium led by the Scottish Centre for Telehealth and Telecare and overseen by the Scottish Assisted Living Programme Board. It is part of the UK-wide DALLAS (Delivering Assisted Living Lifestyles At Scale) initiative, which is aiming to establish four digital communities across the UK. The communities aim to show, by 2015, how assisted living technologies can be used to promote well-being and provide quality health and care, enabling people to live independently. LiU is supported with £10 million in funding – £5 million from the Scottish Government, Highlands and Islands Enterprise and Scottish Enterprise, and £5 million from the Technology Strategy Board – and aims to support upwards of 55,000 people over the age of 50 in five Health & Social Care partnership areas across Scotland.

DirectScot - www.directscot.org

An early "proof of concept" version of a Scottish public services and information portal was developed in April 2011, with the full DirectScot prototype being launched in December that year. The response from the public consultation was very positive with

5 Delivery of Public Services

87% in support of DirectScot being developed into a full web service. *Scotland's Digital Future: Delivery of Public Services* outlines our action plan for taking this forward over the next two years in collaboration with partners across the Public Sector in Scotland. The web service will seek greater alignment with the Scottish Business Portal to simplify the user experience and increase access to Public Sector information and services. This will enable users to engage with service providers in quick and convenient ways and reduce the costs of public service delivery in Scotland.

National Video Conferencing Network

Significant improvements have been made in the quality and reliability of video conferencing across NHSScotland over the past three years, through the national programme led by NHS National Services Scotland, the North of Scotland Planning Group and the Scottish Centre for Telehealth and Telecare to develop internet based video conferencing across the N3 network[8]. Of the estimated 800 video conferencing end points, over 550 are now registered on the platform, with all 14 territorial NHS Boards now migrated onto the new service.

Going Further Faster

***Scotland's Digital Future – Digital Public Services* makes clear that those public services that can be delivered online will be delivered online.**

The strategy is for the Scottish public sector, working with industry and those who use services. It provides a framework with which individual sector strategies will align. This will ensure that the sectors have the flexibility to meet their customers' needs whilst delivering against national outcomes.

The strategy has been developed with, and will guide the future actions of:

> The Scottish Government, its agencies and non-departmental public bodies accountable to Scottish Ministers;

> NHSScotland;

> Local Government;

> The police and fire services; and

> Universities and colleges.

Its aim is to deliver transformational change across the public sector aligned to the aspirations of *Scotland's Digital Future* and to the recommendations of *Renewing Scotland's Public Services* and the *McClelland Review of ICT Infrastructure in the Public Sector in Scotland*.

The strategy has been developed around four key themes:

1. **Citizen/Customer Focus** – that uses digital technology to design new services and redesign existing services to ensure they are based on user needs and improved user experience to help us achieve the outcomes to which we aspire as a nation.

2. **Privacy and openness: using data effectively** – to ensure that personal privacy is protected in line with the law and good practice while using data in order to get service benefits from it. We must have agreed standards and principles underpinning the way we collect, store and manage data.

3. **A skilled and empowered workforce** – that delivers high quality digital public services and the ICT systems that support these by collaborating in the development of the wider public sector workforce to support digital public service delivery and in the deployment and development of our ICT staff to maximise the impact of their skills and use resources efficiently.

8   All of Scotland's Health Boards are connected in a single virtual private network (N3). This network provides the security, capacity and availability that is required in order to exchange information in the health sector. N3 supports all national applications, and provides the networking infrastructure which allows all NHSScotland organisations to communicate electronically via data, voice, video, messaging and other ICT application services.
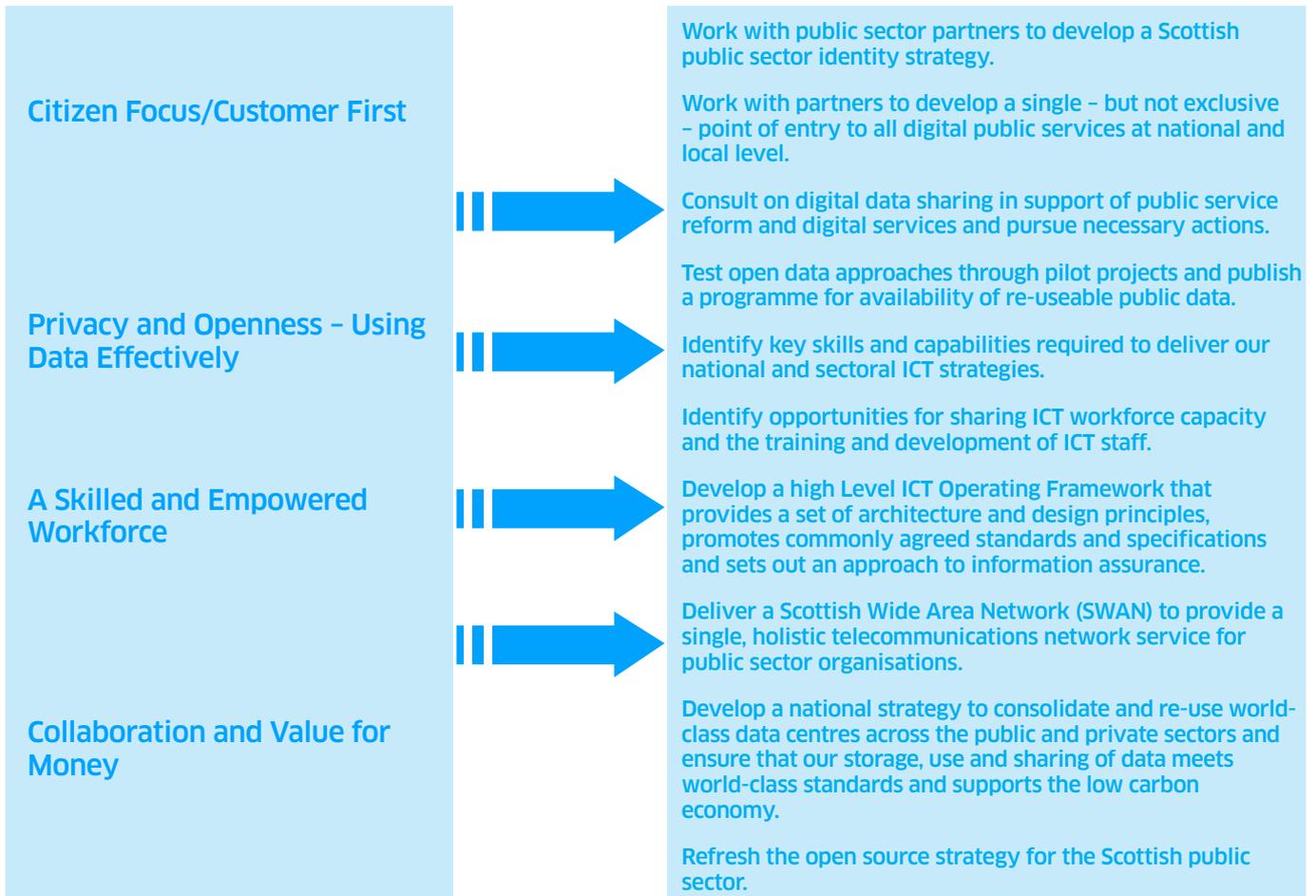
5 Delivery of Public Services

4. Collaboration and value for money – to ensure that our investment in ICT will be through re-use as the first priority, then buy, and lastly build. Collaboration will be the default choice in design and delivery of services and in the deployment of ICT infrastructure to support this. There will be a presumption against individual organisations separately pursuing investment in and ownership of ICT assets or seeking its own capability for systems development.

While our strategic aim is to deliver transformational change, our approach will be incremental and pragmatic, making best use of existing public finance investment.

We state our ambition but not a finite end point; our objective is an agility to respond to technological and societal change that will provide the foundation for continuous improvement in the delivery of public services.

Key Actions – Digital Public Services

Citizen Focus/Customer First

Privacy and Openness – Using Data Effectively

A Skilled and Empowered Workforce

Collaboration and Value for Money

Work with public sector partners to develop a Scottish public sector identity strategy.

Work with partners to develop a single – but not exclusive – point of entry to all digital public services at national and local level.

Consult on digital data sharing in support of public service reform and digital services and pursue necessary actions.

Test open data approaches through pilot projects and publish a programme for availability of re-useable public data.

Identify key skills and capabilities required to deliver our national and sectoral ICT strategies.

Identify opportunities for sharing ICT workforce capacity and the training and development of ICT staff.

Develop a high Level ICT Operating Framework that provides a set of architecture and design principles, promotes commonly agreed standards and specifications and sets out an approach to information assurance.

Deliver a Scottish Wide Area Network (SWAN) to provide a single, holistic telecommunications network service for public sector organisations.

Develop a national strategy to consolidate and re-use world-class data centres across the public and private sectors and ensure that our storage, use and sharing of data meets world-class standards and supports the low carbon economy.

Refresh the open source strategy for the Scottish public sector.

6 Growing a Digital Economy

Progress to Date

http://www.youtube.com/watch?v= ZdrTjkSm6R4&feature=em-share_video_user

Scotland's Digital Future recognised the potential that digital technologies offer for transforming markets and businesses, improving productivity and opening up new Markets for companies in all sectors of the economy. Encouragingly, the proportion of businesses in Scotland trading online now appears to be broadly in line with that in the UK[9], a world leader in per capita levels of e-commerce and on-line advertising[10].

Business Support

Scotland's enterprise agencies (Scottish Enterprise and Highlands and Islands Enterprise) and the local authority-led Business Gateway are striving to ensure that Scottish based businesses are aware of, and are able to capitalise on the opportunities of the digital economy. Business support programmes cover a range of technology topics and direct company support seeks to significantly improve productivity, reach new markets and increase revenues. Support for growth companies is designed to contribute to, and in many cases help enable, the agreed growth strategy of that company. Digital specialists try to identify how technology can stretch the company's strategic ambition and become an enabler of competitive advantage that differentiates that business in its market.

Digital Showcase hosted by Highlands and Islands Enterprise and Business Gateway at Nairn Arts and Community Centre on 22 August 2012.
Photo credit – Tim Winterburn/HIE

In March 2012, Highlands & Islands Enterprise launched its ICT Business Engagement Programme, backed by £800,000 of funding support from Scottish Government, to ensure that business growth plans include the use of ICT as an enabling technology. It includes workshops, seminars and events.

Specialist IT advisors in Scottish Enterprise supported almost 500 companies in 2011–12 – more than 300 of which received grant funding totalling £2 million. This included targeted support for key sectors including tourism, creative media and enabling technologies, to identify and develop key strengths and capabilities.

Business Gateway is revising its ICT Business Engagement and ICT Workshop Programmes whilst a dedicated Scottish Business Portal providing access to online business information and support continues to be developed. It will soon offer a Finance Hub which will help businesses to identify all possible sources of financial support from the public and private sectors.

9   www.scottish-enterprise.com/~/.../Scottish%20e-Commerce%20Study.pdf
10 www.connectedkingdom.co.uk/.../bcg-the-connected-kingdom-oct-10.pdf

6 Growing a Digital Economy

Our agencies promote and run awareness-raising events and workshops to provide more generic information and stimulate broader interest in the key digital topics.

Recent events have included:

> "Let New Business Find You" (June 2011) highlighting the strategic importance and potential of digital marketing, including use of social media to reach new markets and increase revenues.

> "Shine Online" (November 2011) specifically designed for Scotland's tourism industry and focused on digital marketing. It was the platform for launching the latest Tourism Technology Guide and was supported by VisitScotland.

> "Routes to Revenue" (March 2012) promoting business model innovation to enhance competitiveness and growth – and in particular the potential of emerging online business models.

> Eight social media workshops attended by over 100 of Scotland's growth companies.

Digital expertise is also being deployed to support Scotland's key sectors.

Tourism: Independent research was commissioned by Scottish Enterprise to indentify the role technology could play in assisting in the delivery of the Tourism industry strategy. The recommendations led to the development of an industry-focused digital support plan including an online technology guide; delivery of a headline event focused on online marketing using social media; and a series of digital workshops delivered in key destinations (Glasgow, Edinburgh, St Andrews).

Creative Industries: the industry strategy, *Digital Inspiration*, recognises the significant potential for growth of this sector,

underpinned by digital technologies. The Industry Leadership Group is focusing on internationalisation, investment and how to exploit emerging platforms like tablets, connect TV and ever-more sophisticated smart phones.

Enabling Technology Sector: the Technology Advisory Group (TAG) comprising business, academia and government published the *Enabling Technologies Strategy*, which outlines what needs to be done in order to generate a thriving, innovative Scottish economy based on the development of key Enabling Technology applications, in the areas of sensors, informatics and advanced materials – where Scotland already has particular strengths.

Programmes

The Scottish Government and our Enterprise agencies are investing to enhance Scotland's capabilities to exploit opportunities in areas where technologies are converging and demand for complimentarity is growing. This includes the development of new projects, national demonstrators and assets including:

> **Assisted Living:** a collaboration with the Technology Strategy Board to invest £10 million to "Demonstrate Assisted Living Lifestyles At Scale".

> **Informatics Scotland:** contributing £1.6 million to a £20 million project to maximise the commercial benefits gained from our leading capabilities in informatics – with connections to web-based technologies.

6 Growing a Digital Economy

> **Scottish Sensors Systems Centre:**
> working in partnership with the Scottish Funding Council and Scottish Universities to maximise industry benefits from Scotland's leading capabilities in sensors technology, with trends towards mobile and wireless communications.

> **Smart Cities:** developing the Smart Cities Mobility Programme (Intelligent Mobility for Smart Cities) which seeks to develop and exploit intelligent transport systems and increase economic efficiencies using web-based technologies.

> **Supercomputing Scotland:** a business improvement initiative from the Edinburgh Parallel Computing Centre (EPCC) at the University of Edinburgh and Scottish Enterprise which provides Scottish companies with the knowledge to help them decide if using high-performance computing makes sense for them in reaching their business objectives and, if so, supports the company to proceed with a project part-funded by Scottish Enterprise and delivered by EPCC.

Inward Investment

Scotland has a well-established track record of attracting inward investment from digital companies, which tend to be heavily weighted to high value added jobs and usually account for a much higher than average GVA *per capita*. This remains the case with recent successes including:

Company	No. Jobs	Activity
Amazon	750	Dunfermline fulfilment centre
Amazon	900	Customer service centre, Edinburgh
Avaloq	500	Banking systems software
HP	700	System support specialists
enStratus	30	Cloud software platform

Technology accounts for a significant proportion of Foreign Direct Investment (FDI) employment in the UK. Ernst & Young European Investment Monitor 2011 shows that Scotland has secured a much higher share of overall UK investment in this area. The strength of our university sector and skills base are two key reasons for this.

The UK is ranked sixth in the world for IT competitiveness due to the strength of human capital.

Data centres are a major opportunity for attracting investment to Scotland. Scotland offers a secure and resilient environment in which to operate a data centre. Low operational costs and a high skills base means that leading companies including IBM, JP Morgan, Oracle, Hewlett Packard and Fujitsu have already located major facilities in Scotland.

6 Growing a Digital Economy

Skills and Research

http://www.youtube.com/watch?v=B2ds
HYQhhm0&feature=em-share_video_user

We are committed to ensuring that Scotland has the skilled workforce to capitalise on the opportunities presented by the Digital and ICT industries, both in Scotland and internationally.

Skills Development Scotland and the Scottish Government have been working with the ICT Skills Working Group – a joint industry/public sector group looking to address the skills needs for the ICT profession.

An ICT Skills Action Plan will be produced by the end of the year which will clearly articulate the needs of the sector, provide the framework for achieving an alignment between skills supply and industry demand. The Plan will recognise what can currently be met through existing education and training provision and priority actions will develop solutions for filling any gaps.

We also have key research strengths in our university sector linked to the digital economy. dot.rural based in the University of Aberdeen is exploring the contribution digital technologies can make to enhancing key services, generating business opportunities, boosting quality of life and promoting the economic, social and environmental sustainability of rural areas across the UK. They are one of three research hubs funded under the RCUK Digital Economy Theme which support research to realise the transformational impact of digital technologies on aspects of community life, cultural experiences, future society and the economy.

Making a Difference

http://www.youtube.com/watch?v=Hdg
NWHEq2U4&feature=em-share_video_user

More and more businesses are integrating e-commerce into their operations in a focused, strategic and increasingly highly sophisticated way and Scottish companies such as Toolstop, Donald Russell and Jenier Teas are reaping the benefits of a 'new breed' of e-commerce solutions to achieve exponential sales growth. Scottish Enterprise research in 2012 highlights the importance of e-commerce to the Scottish economy (estimated £10bn direct GVA; 200,000 direct jobs). It also highlights the significant opportunity e-commerce presents for Scotland, and in particular for exporting and international companies.

Going Further Faster

Much activity is under way across our enterprise agencies, in our universities, and within the industry itself to position Scotland as a world leading digital economy. It is clear that we have strengths in a number of areas that bode well for the future. We are making positive in-roads in the areas outlined above but there is also a collective recognition that more can be done.

We need to build on existing partnerships to create a genuine Team Scotland approach to promoting Scotland's digital economy with a clear shared strategic direction and understanding of our respective roles within that team. Scottish Government is committed to putting this in place by April 2013. We invite our partners to work with us to review our collective efforts to date and to consider how we should position ourselves for the future.

6 Growing a Digital Economy

Key areas under development or for future consideration include:

> **International e-Commerce – Support:** Scottish Enterprise's Digital team is working closely with its international arm Scottish Development International (SDI) to develop and launch an e-commerce programme to help support, enable and grow Scotland's exporting companies. The first event is planned for Edinburgh in November 2012 and will feature inspirational speakers, case studies and targeted workshops. A competition that recognises Scottish best practice in e-commerce will also run in parallel with the event to help raise further awareness.

> **Business Sectors:** The current refresh of Scotland's Technology Advisory Group (TAG) presents a real opportunity to make a 'step change' in 2012-13 in accelerating the adoption of digital technology across the economy. TAG's renewed leadership should be encouraged and supported to work with other **Industry Leadership Groups** to drive the development of a digital economy implementation plan focused on accelerating Scotland's sectors to become world-class in their exploitation of Scotland's digital infrastructure.

> **Inward Investment:** The digital economy has created huge markets for technology suppliers. In the UK alone, ICT, software and digital content providers are worth £100 billion. The rapid evolution of new digital technology supply opportunities are creating new industries, and key opportunities for Scotland to exploit, in areas such as:
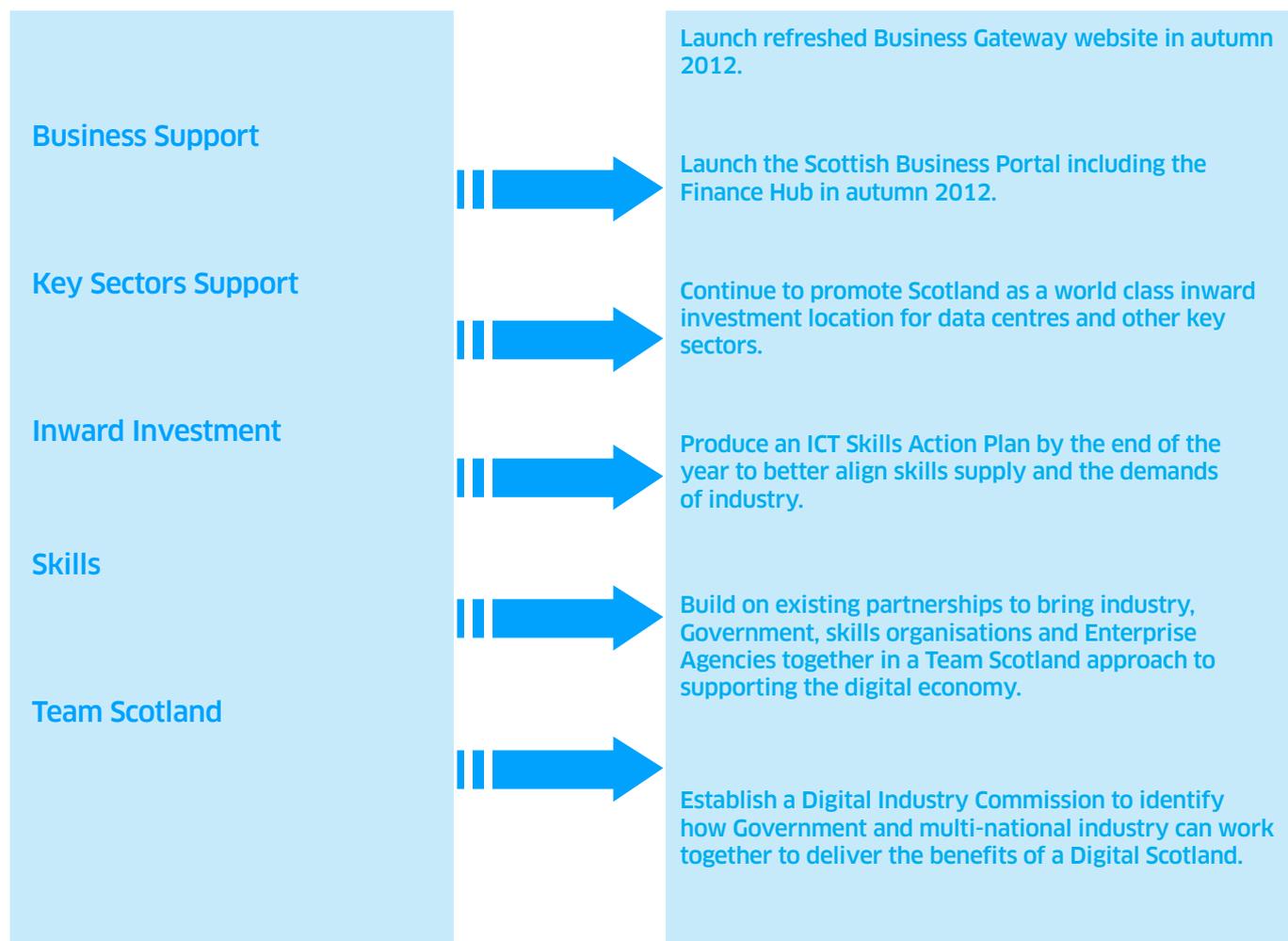
> **Big Data Information Management:** Explore the means of deriving value from the huge amounts of unstructured data available online. Scottish Development International (SDI) is currently working with key partners to develop an enhanced data centre proposition for Scotland to build on previous success.

> **Cloud Computing:** The global public cloud computing market will grow from $68.3 billion in 2010 to $148.8 billion in 2014 with over half the revenues coming from outside the US.

6 Growing a Digital Economy

Key Actions – Digital Economy

Business Support

Key Sectors Support

Inward Investment

Skills

Team Scotland

Launch refreshed Business Gateway website in autumn 2012.

Launch the Scottish Business Portal including the Finance Hub in autumn 2012.

Continue to promote Scotland as a world class inward investment location for data centres and other key sectors.

Produce an ICT Skills Action Plan by the end of the year to better align skills supply and the demands of industry.

Build on existing partnerships to bring industry, Government, skills organisations and Enterprise Agencies together in a Team Scotland approach to supporting the digital economy.

Establish a Digital Industry Commission to identify how Government and multi-national industry can work together to deliver the benefits of a Digital Scotland.

7 Digital Participation

Progress to Date

Through the *Choose Digital First* programme, we are working with a broad range of public, private and third sector partners to ensure that everyone has access to and can make the best use of digital technologies. This is essential if we are to take advantage of the economic, social and cultural opportunities that will flow from our investment in digital infrastructure.

Participation Rates

The most recent report from Ofcom published in July 2012 shows a 7% increase in broadband take up, bringing Scotland into line with Wales and Northern Ireland (68/69%.) This is highly encouraging progress towards the participation targets described in our initial strategy and suggests that we are on the right track in ensuring that the benefits of the digital age are not confined to a few.

Whilst this way of measuring digital participation is showing the progress we have made in Scotland in a good light, we are concerned that it is neither comprehensive nor accurate enough to provide a true picture of digital participation. The methodology has a statistical variance of between 2% -8% and is not flexible enough to reflect the increasing range of options that are now available in terms online access.

Consequently, we intend to develop a more comprehensive picture of digital participation, as part of a new overarching measurement framework for the digital strategy, which will enable us to consider the degree to which Scotland can be regarded as a digital nation in comparison to the leading economies of the world, rather than merely within the UK context. This measurement framework is being developed currently and will be set out as part of future communication of our vision of our World Class 2020 infrastructure programme

Partnership Working

The aim of the *Choose Digital First* programme is to ensure that people choose to go on line because they regard it as the most convenient and effective means of accessing the goods and services they want. This requires a recognition that the motivation to go online and the barriers to such motivation vary according to a wide range of geographic, social and cultural factors and that therefore action to stimulate greater participation needs to include tailored messages and be delivered through a range of different channels.

The starting point for this work was the launch of the Digital Participation Charter following the Microsoft Govcamp held in Scotland in November 2011. This committed signatories such as JP Morgan, Cisco, SOPRA and the University of Edinburgh to sharing information and resources to improve the rate of digital participation across Scotland. It has spawned a number of individual work streams, coordinated through the Digital Participation Action Group, designed to address youth employment, education, smart working, open data and the digital requirements of older people.

Digital Skills for Life

http://www.youtube.com/watch?v=bZLaZ8A DiSo&feature=em-share_video_user

If Scotland is to be a truly world leading digital nation we need all of our people to have the digital skills that they will require throughout their lives. That means ensuring that all individuals, whatever their age, backgrounds or current situations can be supported to make best use of the digital technologies that are available to them.

7 Digital Participation

Our 'Learning ICT' programme is designed to develop a user-centred environment to take forward Scotland's digital ambition for learning and to ensure that Scotland's teachers, learners and parents can take full advantage of opportunities offered by digital services and content. Key aspects of the programme include:

> Curriculum Development for ICT project, designed to ensure young people have access to relevant and up-to-date skills, knowledge and content (e.g. computing science, ICT skills, numeracy) through Curriculum for Excellence.(CfE)

> Continuing investment in Glow (Scotland's national education intranet) which supports learning and teaching through significant improvements in the tools and services that are made available.

> The appointment of the Chief Scientific Adviser Professor Muffy Calder to chair the ICT in Education Excellence Group, which will define the requirements for a future Glow system that will continue to support the principles of CfE, harness the power of new and changing technologies to support learning and provide a seamless user-centred experience.

We also want to ensure that the confidence and capacity our school children is maintained as they become young learners and move into further education, training or work. Our ambition is to empower, enthuse and motivate learners, giving them a clearer sense of the choices available. We want to help them make better decisions by presenting information to them in a way that they themselves shape, using new approaches, technologies and channels they can relate to. This demands a deep insight into what learners need and we have worked with a design consultancy, to speak to learners in school, college and university and then to work with them to develop ideas that they think would improve the system. We will bring forward proposals for a coordinated approach to the Post 16 education landscape to better inform learners, parents, employers and others about how these changes will benefit them.

Digital TV

The switchover from analogue to digital television in Scotland was completed on 21 June 2011. As part of the opportunities offered by the greater availability of electro-magnetic spectrum resources for terrestrial broadcasting, the Scottish Government has been pressing for implementation of the recommendation by the Scottish Broadcasting Commission for a Scottish Digital Network on free-to-air digital terrestrial television, funded from licence fee resources (or possibly as an interim measure, from revenue from the sale of 4G licences once digital switchover is complete). In the context of the Scotland Act 2012 the Scottish Government proposed amendments to give the Scottish Parliament statutory powers to establish public service broadcasting institutions, which would fulfil the legislative requirement to establish the Scottish Digital Network, in the event the UK Government was unwilling to support such a measure.

7 Digital Participation

Making a Difference

http://www.youtube.com/watch?v=5YyAyR
Plr1Y&feature=em-share_video_user

MOBILISED (Mobile Information Services in East Dunbartonshire)

http://www.youtube.com/watch?v=EI2EWcV
4V9U&feature=em-share_video_user

Libraries and their partners in East Dunbartonshire offer taster sessions to introduce information technology to beginners and intermediate learners. Scottish Libraries Information Council (SLIC) provided some iPads, and other mobile technologies such as e-readers to older learners in care homes, sheltered housing, community centres, churches and other meeting places and support was provided through on-to-one tutoring sessions delivered by pupils from local schools. This project secured high levels of community involvement and is a great example of an inter-generational approach to encouraging higher levels of digital participation in a group who may not be able to gain access to the internet without this support.

http://www.youtube.com/watch?v=-_S_
eODvZv0&feature=em-share_video_user

Going Further Faster

While the recent growth in participation reported by Ofcom is very encouraging, there is some way to go to realise our participation ambitions. Nearly 25% of Scots are currently missing out on the economic, social and cultural benefits that the internet can bring and this is creating a digital divide, with those on lower incomes and older age groups being least likely to be online. Despite a 10% increase last year, broadband take up in Glasgow is significantly below the national average.

Working with our public and private sector partners, we will draw together previously separate strands of work into a single national programme that will be capable of making a sustained impact on both consumer and business behaviours, as well as attracting the active support and involvement of private sector partners. The *Choose Digital First* programme will aim to go beyond the narrow aim of getting people on line and will encompass activity to increase the extent of that participation and ensure that individuals and businesses are able to derive the economic, social and other benefits that can flow from digital participation. This will look at how we can facilitate the generation of new content in stimulating interest and demand, including consideration of the role that platforms such as digital television might play in delivering services to ensure that individuals and businesses are able to derive the economic, social and other benefits of being digitally connected.

7 Digital Participation

As part of this programme, we will assess whether we have the right resources and structures in place to take full advantage of the undoubted enthusiasm that exists amongst stakeholders for this critical agenda. The Digital Participation Charter will remain the key mechanism through which organisations and individuals are encouraged to commit to improving rates of digital participation and we want to realise its potential by working with signatories to harness their ideas and resources to spearhead a revitalised programme of action at both a national and a local level. Amongst other things, this will require us to identify a dedicated, standing resource to drive the programme forward.

Community Groups and third sector organisations have a vital role to play in improving digital participation. We will work with them to develop their potential as a channel that can provide tailored and trusted advice to the people they support and represent. We will also work with leading third sector organisations to identify particular information or other needs amongst their client groups and then encourage, and where appropriate incentivise Scotland's digital community to develop the applications that are capable of addressing these needs
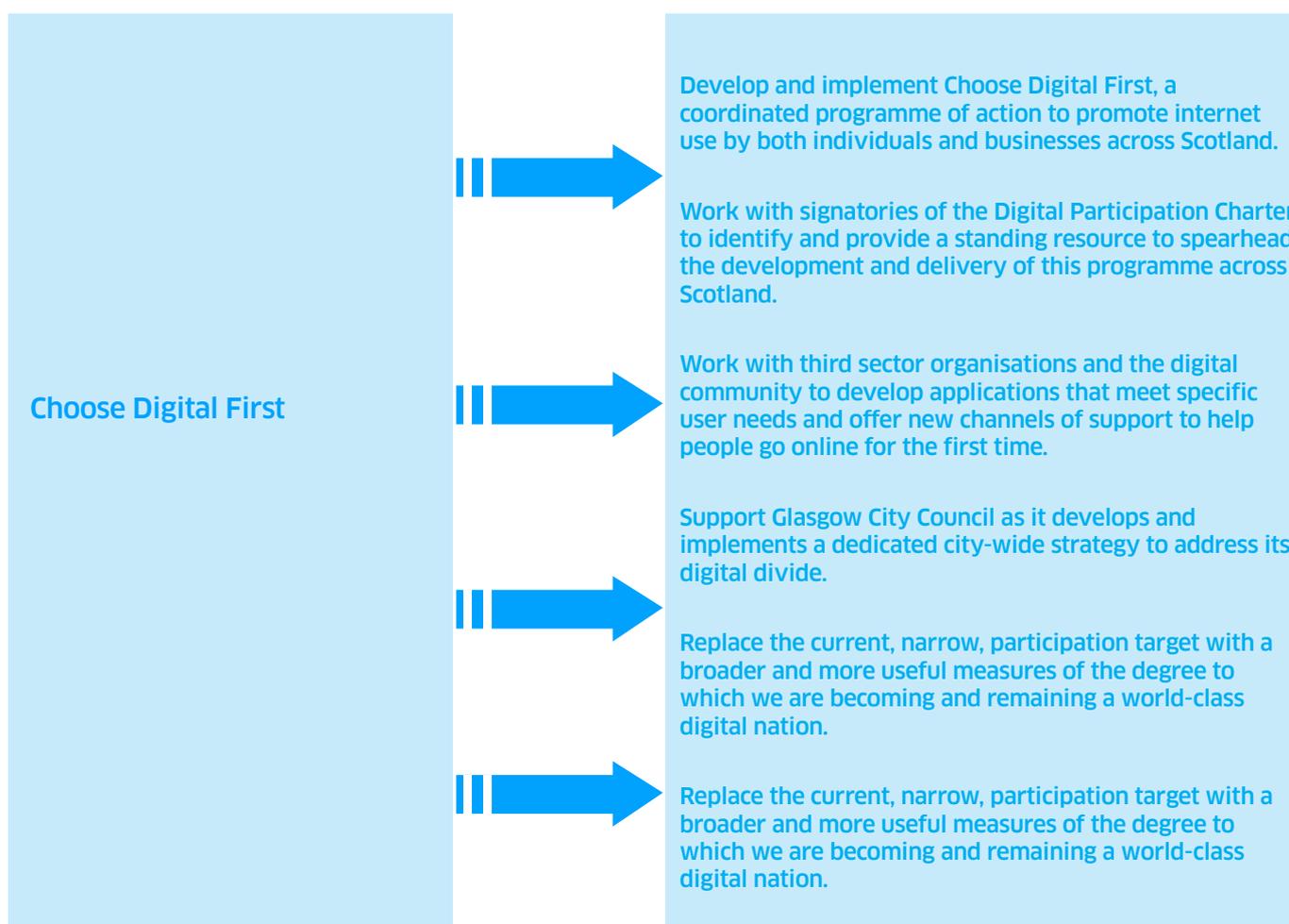
We also recognise that the cost of going on line can be a barrier for some low income groups. We will therefore explore how we can work with partners and relevant organisations to assess the business case for a social tariff for Broadband. Local government is a key partner in action to promote digital participation and we will work with Councils across Scotland in developing future plans. This includes support for the work of Glasgow City Council as it develops and implements a Digital Strategy to tackle the digital divide in the city.

To support business and encourage new ways of working we will work with appropriate bodies to ensure that the skills and tools to support Scotland's digital economy are in place. We will identify and deliver sector specific programmes that will demonstrate the business case for digital participation. The programme of support activity that is currently underway in the Highlands and islands will be adapted and rolled out across the rest of Scotland by Summer 2013.

7 Digital Participation

Key Actions – Digital Participation

Choose Digital First

Develop and implement Choose Digital First, a coordinated programme of action to promote internet use by both individuals and businesses across Scotland.

Work with signatories of the Digital Participation Charter to identify and provide a standing resource to spearhead the development and delivery of this programme across Scotland.

Work with third sector organisations and the digital community to develop applications that meet specific user needs and offer new channels of support to help people go online for the first time.

Support Glasgow City Council as it develops and implements a dedicated city-wide strategy to address its digital divide.

Replace the current, narrow, participation target with a broader and more useful measures of the degree to which we are becoming and remaining a world-class digital nation.

Replace the current, narrow, participation target with a broader and more useful measures of the degree to which we are becoming and remaining a world-class digital nation.

8 A Collaborative Approach

Get Involved

In the digital world it is accepted practice for services, ideas and initiatives to be launched, tested and then refined along the way based on feedback and comment. Whilst this approach might not always sit comfortably with traditional ways of working in government, it is important, in a field where new ideas and opportunities are emerging all the time, that we develop and implement our digital strategy in an iterative way that responds to the world around us.

In the months ahead, we will step up our current level of engagement through a range of digital channels. This starts with the way in which we have undertaken this update and will continue with opportunities for everybody to get involved in delivering a Digital Scotland by following us on Twitter @digitalscots, e-mailing us at digitalscotland@scotland.gsi. gov.uk and by checking the Scotland's Digital Future website at http://www.scotland.gov.uk/ Topics/Economy/digital.

We hope that everybody reading this strategy will look out for regular tweets and take part in the discussion. We would like to hear everyone's views on how the digital strategy is being delivered, what the current issues are that should be considered and how delivery of the strategy's outcomes are making a difference to you. Join future online Question and Answer sessions and help us understand more about the ways in which you use, or plan to use digital technology in the future.

As we make progress, we will update our case studies and ensure future communications highlight good practice and illustrate the benefits of digital technologies for businesses and individuals. To ensure a consistent approach to communication and engagement is achieved, a distinct and overarching Digital identity is being developed to enable clear identification of all work strands being progressed. A further Strategy Update will be published in 2013.

Leadership

Scottish Ministers have established a Cabinet Sub-Committee which is responsible for delivery of the Scottish Government's digital strategy across all areas of the Scottish Government.

Our digital strategy is a national strategy, the success of which depends upon the support and engagement of people, businesses and organisations across the country. Whilst Scottish Government must necessarily provide clear leadership, it must do so in a collaborative manner, with a commitment to proactive engagement and drawing comment and ideas from the widest possible pool of expertise.

The Infrastructure Action Plan is underpinned by a rigorous approach to project governance in order to ensure that we secure value for money from the significant investment that we are proposing to make in digital infrastructure. This includes a Programme Board, Chaired by a senior civil servant and a Political Oversight Group which provides a forum in which the leaders of the Scottish Government and CoSLA can meet to address key issues and agree joint actions to ensure the successful delivery of the Plan. The collaborative governance structures that were required to develop the Digital Public Services Strategy will be retained and will continue to adapt and develop as the strategy moves into the delivery phase.

A partnership between government, business, enterprise agencies and skills organisations is central to the success of our ambition to create a vibrant digital economy. Going forward, we

8 A Collaborative Approach

want to build on this platform and engage business more fully in shaping and realising the benefits of the digital strategy as a whole. We are currently discussing opportunities and will come forward shortly with proposals for extending the partnerships and joint working that exist currently around the digital agenda.

Attracting Talent

The Scottish Government understands that despite pressures on resources it is essential; if we are to deliver a cost effective, digital strategy that we bring the right people, with the right skills to make it happen. Despite pressures on resources, we have therefore established a new Digital Directorate within Scottish Government and recruited a number of people with a track record of success in digital infrastructure, communications and service delivery to work alongside and exchange ideas with an expert team of policy makers.

9 Summary of Actions

Building Digital Connectivity Fit for the Future	
Step Change 2015	Award the contract to provide digital infrastructure in the Highlands and Islands by the end of 2012 and in the rest of Scotland in the first half of 2013.
	Work with CoSLA and local authorities to meet both the agreed national and local objectives of the infrastructure programme.
	Manage the roll out of *Step Change 2015* to deliver the planned benefits to Scottish communities and ensure value for money from the investment.
World Class 2020	Set out proposals in December 2012 to deliver world-class digital connectivity for Scotland by 2020 and test these ideas through a widespread discussion with stakeholders.
	Publish the results of a survey of current mobile performance across Scotland and use the results as a platform for action to improve this coverage across the country.
	Launch pilot and demonstration projects to showcase new technologies and illustrate Scotland's determination to establish a world-class digital infrastructure.
Demonstrating Digital	Establish a one-stop-shop advisory service for communities including online advice and a telephone helpline.
	Support the development plans of the Scottish Cities Alliance and the provision of super Wi-Fi in key urban areas.
Choose Digital First	Stimulate demand for next generation broadband as part of a wider programme to promote digital participation.
Delivery of Public Services	
Citizen Focus/ Customer First	Work with public sector partners to develop a Scottish public sector identity strategy.
	Work with partners to develop a single – but not exclusive – point of entry to all digital public services at national and local level.
	Consult on digital data sharing in support of public service reform and digital services and pursue necessary actions.
Privacy and Openness – Using Data Effectively	Test open data approaches through pilot projects and publish programme for availability of re-usable public data.
A Skilled and Empowered Workforce	Identify key skills and capabilities required to deliver our national and sectoral ICT strategies.
	Identify opportunities for sharing ICT workforce capacity and the training and development of ICT staff.

9 Summary of Actions

Delivery of Public Services	
Collaboration and Value for Money	Develop a High Level ICT Operating Framework that provides a set of architecture and design principles, promotes commonly agreed standards and specifications and sets out an approach to information assurance.
	Deliver a Scottish Wide Area Network (SWAN) to provide a single, holistic telecommunications network service for public sector organisations.
	Develop a national strategy to consolidate and re-use world-class data centres across the public and private sectors and ensure that our storage, use and sharing of data meets world-class standards and supports the low carbon economy.
	Refresh the open source strategy for the Scottish public sector.
Digital Economy	
Business Support	Launch refreshed Business Gateway website in autumn 2012.
	Launch the Scottish Business Portal including the Finance Hub in Autumn 2012.
Key Sectors Support/Inward Investment	Continue to promote Scotland as a world-class inward investment location for data centres and other key sectors.
Skills	Produce an ICT Skills Action Plan by the end of the year to better align skills supply and the demands of industry.
Partnership	Build on existing partnerships that bring industry, government, skills organisations and enterprise agencies together and come forward with proposals to extend the partnership between government and business in order to implement and realise the benefits of all aspects of the digital strategy.

9 Summary of Actions

Digital Participation	
Choose Digital First	Develop and implement *Choose Digital First*, a coordinated programme of action to promote internet use by both individuals and businesses across Scotland.
	Work with signatories of the Digital Participation Charter to identify and provide a standing resource to spearhead the development and delivery of this programme across Scotland.
	Work with third sector organisations and the digital community to develop applications that meet specific user needs and offer new channels of support to help people go online for the first time.
	Support Glasgow City Council as it develops and implements a dedicated city-wide strategy to address its digital divide.
	Replace the current, narrow, participation target with a broader and more useful measures of the degree to which we are becoming and remaining a world-class digital nation.
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10 Glossary

2G	The second generation of mobile telephony, capable of delivering voice and slow data services (including SMS text services). Upper range 2G services can provide data rates of up to 236.8 kbps.
3G	The third generation of the mobile telephone network, capable of delivering broadband equivalent speeds to mobile telephones and smartphones, laptops and handheld/tablet computers.
4G	The fourth (and future) generation of the mobile telephonenetwork, currently undergoing trials in the UK. 4G is likely to be capable of speeds of up to 100 megabits per second.
Backhaul	The backhaul portion of a network comprises the intermediate links between the core network, or backbone network and the small sub-networks at the "edge" of the entire hierarchical network.
BDUK	Broadband Delivery UK, part of the UK Government's Department of Culture, Media and Sport.
Cloud Computing	Location-independent computing, whereby shared servers provide resources, software, and data to computers and other devices on demand.
CoSLA	Convention of Scottish Local Authorities
Free space optics	An optical communication technology that uses light propagating in free space to transmit data for telecommunications or computer networking. The technology is useful where physical connections are impractical due to high costs or other considerations.
Gbps	Gigabytes per second
GHz	Giga Hertz
HIE	Highlands and Islands Enterprise
ICT	Information and Communication Technologies
LTE Advanced (true 4G)	A standard for wireless communication of high-speed data for mobile phones and data terminals.
Mbps	Megabits per second
MHz	Mega Hertz
Next generation broadband	High-speed broadband which exceeds the capabilities of copper-based (or similar) broadband infrastructure. Speeds will vary dependent on the technology used.
Ofcom	Office of Communications – the UK's independent telecommunications regulator and competition authority.
Portal	A website that brings information from diverse sources together in a unified way.

10 Glossary

Public Digital Assets	Information of value held in electronic form by Scottish public bodies. It comprises assets that have only ever existed in digital form (e.g. websites, word-processed documents) and assets which are digital surrogates in that they are digital copies of a record that exists in analogue format (e.g. National Records of Scotland content at www.scotlandspeople.gov.uk).
Scottish Centre for Telehealth and Telecare	Part of NHS 24. The centre provides practical advice and support to Health Boards, Local Authorities and other key stakeholders across Scotland as they seek to realise the potential of digital health and assistive living technologies in the redesign of health and care services in order to help the people of Scotland live longer, healthier lives at home, or in a homely setting.
SE	Scottish Enterprise
SME	Small to Medium-sized Enterprise
Telecare	The provision of care services at a distance using a range of digital technologies. These range from simple personal alarms, devices and sensors in the home, through to more complex technologies such as those which monitor daily activity patterns, enable 'safer walking' for people with cognitive impairments, detect falls and epilepsy seizures, facilitate medication prompting, and provide enhanced environmental safety.
Telehealth	The provision of health services at a distance using a range of digital technologies. This includes the capture and relay of physiological measurements from the home for clinical review and early intervention, often in support of self management; and 'teleconsultations' where technology such as email, telephone, telemetry, video conferencing, digital imaging, web and digital television is used to support consultations between professional to professional, clinicians and patients, or between groups of clinicians.
Wi-Fi/Wireless	A technology enabling home computers, smartphones and handheld/tablet computers to access the internet when within range of a wireless network connected to the internet.

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