

## **Scottish Government and HIE Update on Digital**

The Scottish Government and HIE share the vision of a world-class digital nation set out in the Digital Strategy published in March 2017 and reaffirmed in September's Programme for Government. The Scottish Government wants a Scotland that is vibrant, inclusive, open and outwards-looking, where digital skills and technology are at the heart of everything we do and enable us to deliver our priorities in an efficient and future-proofed way.

**Access to broadband continues to improve.** The Digital Scotland Superfast Broadband (DSSB) Programme, led by HIE in the Highlands and Islands, is reinvesting Gainshare and other sources of funding to drive regional coverage towards 86% by the end of 2017. This will bring fibre to more than 7000 additional premises.

**The Scottish Government intends to go beyond DSSB.** Our shared ambition of a becoming a truly world-leading digital nation requires future-proofed infrastructure in place now. The Reaching 100% (R100) commitment will ensure that all premises in Scotland have superfast broadband access by 2021. R100 will deliver speeds of at least 30 megabits per second.

**Work to improve 4G access across the Highlands and Islands continues.** Commercial deployment is on track to ensure 95% of premises across Scotland can access indoor 4G by the end of 2017. Access will be boosted further by the UK Government's Emergency Services Mobile Communications Programme, delivered by EE. The Scottish Government is developing a 4G Infill Programme designed to further reduce not-spots and intends to begin procurement by the end of 2017.

**Investment in infrastructure is only half the story: we recognise the demand for a digitally confident workforce now and in the future.** The digital sector employs around 91,000 people across Scotland and is set to be the fastest growing part of the economy until 2024. Over 12,000 new entrants are needed every year to meet replacement and growth requirements. At present the labour market cannot meet this demand. Over the last four years, SG, HIE and others have worked collaboratively to meet this challenge, investing around £18M in digital skills and initiatives to attract young people and women into Science, Technology, Engineering and Mathematics careers.

### **1. Digital Scotland Superfast Broadband (DSSB) Programme:**

Fibre-based broadband is now available to around 84% of the region's premises. Around 80% (of all premises) can access speeds greater than 24Mbps. At the end of June 161,018 premises were connected from 800 structures.

Work is progressing to extend coverage further through the following programmes:

**Extended Reach** - BT has confirmed they are able to go beyond the committed contractual targets within the original budget. This additional build is estimated to provide fibre coverage during 2017 to a further 4,345 premises, primarily in towns and villages where delivery is already taking place.

**Gainshare** – In addition, strong early take-up on the new infrastructure has triggered a Gainshare (clawback). By the end of 2017 an additional 1,828 premises will be connected through this reinvestment.

**Innovation Fund** - BT has completed modelling the remaining budget of £2.15m. This will connect 862 premises currently receiving less than 2Mbps by the end of June 2018.

**Residual Funds** – In summer 2017 BT has undertaken a further review and assessed that the contractual targets could be achieved with less money than had been previously modelled. Agreement has been reached to use these cost efficiencies within the current contract and this will deliver fibre broadband to a further 12,317 premises during 2018.

The initial contractual targets were to deliver fibre broadband to 156,238 premises with 124,530 premises receiving over 24Mbps. With the increased coverage detailed above the project will now deliver to 175,590 premises and 138,861 receiving over 24Mbps.

#### Broadband speeds & Coverage Data

Around 79% of premises connected to fibre through DSSB in the Highlands and Islands are achieving speeds of at least 24Mbps. However, SG and HIE recognise that speed remains an issue for some premises. We continue to make the case to BT regarding commercial investment and innovation to overcome speed issues. Improvements have been noted in the sharing of information on rollout plans. For their part, BT is innovating potential solutions. The 'Long Reach VDSL' trial at North Tolsta on the Isle of Lewis (and Eriskay in South Uist) is one such example. Essentially Long Reach VDSL provides a stronger broadband signal that can be transmitted further along the copper cable from the green roadside cabinet. Results from BT suggest Long Range VDSL could extend the reach of fibre broadband considerably, with premises up to 2km able to benefit.

Usually speed issues are linked to the use of Fibre to the Cabinet (FTTC) technology in the DSSB programme. This connects individual street cabinets to main exchanges by a fibre cable while existing copper cabling is re-used in the link between cabinet and individual premises. Over copper, broadband speeds diminish with distance, a process known as attenuation. Fibre To The Premises solutions do not suffer attenuation, but the costs of deployment are significantly higher owing to much greater civil engineering requirements.

## **2. Delivering 100% Superfast coverage**

Scotland is the only UK nation to commit to achieve 100% superfast coverage. Realising this commitment will support rural development and enable innovation and growth across the economy. The UK Government has chosen to progress its Universal Service Obligation at only 10Mbps. The Reach 100% (R100) Programme will deliver new investment, focused on bringing superfast broadband to the hardest to reach premises – those that won't

benefit from the DSSB programme. Achieving 100% coverage will support rural development and enable innovation and growth across the economy.

**The Scottish Government is clear that no premises – residential or business – will be excluded.** Any premises that won't have a superfast broadband service delivered commercially or through publicly funded programmes such as DSSB and Community Broadband Scotland will be eligible for investment. However, SG is equally clear that taxpayers money should not be subsidising coverage gaps in urban areas. Public funding should be focused where it is needed most – in rural Scotland.

The breadth of Scotland's topography and high degree of rurality means that R100 will need to leverage a blend of technologies – fibre, wireless, 4G and high speed satellite broadband solutions are all likely to play a part.

It is our intention to enter procurement for R100 by the end of 2017.

### **3. Improving Mobile Coverage**

**Working in partnership with HIE and Scottish Futures Trust, as well as the wider industry, we are committed to improving access to 4G across the Highlands and Islands.** Although telecoms is a reserved policy area, the absence of a coherent UK-wide plan on mobile means that the Scottish Government is taking a lead in this area. Last year we launched our Mobile Action Plan, the first of its kind in the UK.

We are delivering against that plan. All Local Authorities will have received progress reports specific to their area from HIE in advance of this CoHI meeting.

In July, new planning regulations came into force making it simpler to build new mobile infrastructure and extend existing sites. Further amendments will be considered as part of a wider planning review.

In August we launched the first phase of our 4G Infill Programme. It aims to push coverage beyond what commercial deployment and the UK Government's Emergency Services Network programme delivers. Phase 1 will enter procurement by the end of 2017 to tackle a limited number of not-spots.

Actions currently being developed include a ratecard scheme designed to make publicly owned land and buildings available to mobile providers. We will do so in a way that recognises the needs of industry and the public sector. This should in the future aid increased options for deployment of 5G

#### **Strategic engagement**

As well as our own initiatives, we seek to shape UK-wide policy to ensure the areas like the Highlands and Islands achieve maximum benefit.

One of the most important areas we seek to influence is the design of future spectrum-auctions. We are committed to working collaboratively with the UK Government, Ofcom and industry to ensure Scotland achieves maximum benefit.

Instead of maximising revenues from sales of spectrum, we will make the case for an 'outside in' approach in future. We want to ensure that rural areas in Scotland are appropriately covered by 5G coverage obligations, using an 'outside in' approach. This worked well in Germany, where mobile operators are obliged to roll out to rural areas first, before rolling out to urban areas.

#### **4. Creating a digitally-skilled workforce**

**The Scottish Government created the public/private Digital Scotland Business Excellence Partnership to address Scotland's digital skills needs.**

Through this vehicle, we have invested over £18m over the past 4 years to support businesses and individuals develop their digital skills. The Scottish Government is pleased to have HIE as a key partner in this group.

To tackle both immediate digital skills shortages and to boost the number of skilled individuals we have in the pipeline and in the workplace, £9.5 million of this funding has been focussed specifically on delivery of the Digital Skills Investment Plan. Taking this further, we formed a Digital Skills Group (a subgroup of the DSBE) a partnership with companies such as JP Morgan, Hewlett Packard Enterprise, Cisco and FanDuel and this has delivered a range of projects that respond to the industry's but also works to broaden the future talent pool.

Backed by just over £3m of investment to date, CodeClan, Scotland's first industry-led digital skills academy, is offering students an intensive four month training programme with direct access to employers and an opportunity to attain a professional developmental qualification at SCQF level 8.

To supplement our digital workforce, we have supported an International Talent Attraction campaign, focused on persuading skilled software jobseekers from Spain, Poland and Portugal to live and work in Scotland.

However, we know Scotland needs a pipeline of digital talent for the future and we are focusing on young people at the opposite end of the educational ladder. With over £1m of SG funding our Digital World marketing campaign and events are raising awareness of the varied and attractive careers available to those with the requisite digital skills and qualifications.

Since June 2016, Digital Xtra has made £400,000 available to help girls and boys across Scotland develop their digital skills through extra-curricular opportunities like coding clubs and competitions. Digital Schools is a new programme which will together industry and education representatives to test innovative approaches to digital skills development in secondary schools (due to make progress during 2017).