

Improving digital connectivity remains a high priority. The Digital Scotland Superfast Broadband (DSSB) Programme, led by Highlands and Islands Enterprise (HIE) will provide 86% of premises with access to fibre by the end of 2017 but there are plans to increase coverage with additional investment.

The Scottish Government is committed to making superfast broadband available to 100% of premises by the end of 2021. A range of technologies – fibre, 4G, wireless and superfast satellite – will enable every home and business in Scotland to access high speed broadband. Further details will be announced later in 2017.

Commercial 4G continues to make progress. All four of the main UK mobile network operators are committed to providing indoor coverage to 95% of premises across Scotland by the end of 2017. Good progress is being made with proposals for a Mobile Infill Programme, a core element of the Mobile Action Plan. It is our intention to announce proposals for the infill programme by Spring 2017.

Update from HIE and Scottish Government

1. Digital Scotland Superfast Broadband (DSSB) Programme:

Fibre-based broadband is now available to around 84% of the region's premises. At least 70% (of all premises) can access speeds greater than 24Mbps. At the end of January 154,000 premises were connected from 725 structures.

Work is underway to push coverage further still 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). During 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 March 2018.

Broadband speeds & Coverage Data – SG maintains its position that more is needed from BT regarding commercial investment and innovation to overcome speed issues. Improvements have been noted in the sharing of information on rollout plans.

Speed issues flow from the use of Fibre to the Cabinet (FTTC) technology by the DSSB programme. In an FTTC deployment, individual street cabinets are connected to main exchange by a fibre cable. Existing copper cabling links each home/business

to the cabinet. It is within this 'local loop' of copper that speed drop-offs occur as broadband speed diminishes over distance.

BT is innovating potential solutions to this issue. As noted in the last CoHI Members Paper, 'Long Reach VDSL' is undergoing trial at North Tolsta on the Isle of Lewis and in other rural communities around the UK. In its simplest sense, Long Reach VDSL increases the power of the broadband signal and this stronger signal can be transmitted further along the copper cable from the cabinet. Early indications from this trial, and others around the UK, are positive and this technology could help make fibre broadband available to more premises.

2. Achieving 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.

Work continues with a range of partners and involves finalising the DSSB coverage footprint. To understand commercial rollout plans, SG launched an Open Market Review in November last year. This will help identify a new intervention area for new investment. SG intends to launch new procurement activity 2017. Scotland's hardest to reach rural areas, those that won't benefit from our Digital Scotland programme, will be prioritised in the deployment.

Realising 100% coverage will require a mix of technologies – fibre, wireless, 4G and high speed satellite broadband solutions are all likely to play a part. A series of interventions using different commercial and technological models will be needed. However, SG is 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.

Recent announcements from BT and Virgin Media regarding their investment plans for urban areas are warmly welcomed – SG wishes to create an environment that encourages and promotes that investment.

3. Improving Mobile Coverage

We recognise that Scotland was left poorly served by previous UK-wide spectrum auctions, which prioritised revenue at the expense of rural coverage. We will work with the UK Government, Ofcom and industry to ensure that history does not repeat itself.

On that basis, we will make the case for an 'outside in' approach in future – to ensure that rural areas in Scotland are covered by 5G coverage obligations. The 'outside in' approach has worked in Germany, where mobile operators are obliged to roll out to rural areas first, before rolling out to urban areas.

Improving mobile coverage across Scotland remains a top priority for SG and HIE. Last year, SG agreed an action plan with the UK's four mobile network operators – the only one of its kind in the UK.

SG and HIE continue to work closely with Scottish Futures Trust (SFT) and the industry to jointly develop options for an infill programme by Spring 2017, to help fill 4G coverage gaps. This project will seek to avoid the mistakes of the UKG's ill-fated Mobile Infrastructure Project (MIP) which was created without industry input and delivered just 3 of 84 planned masts in Scotland. Our Infill Programme will be informed by a series of pilot projects being developed by Scottish Futures Trust to trial innovative technologies and alternative business models.

Work on the Mobile Infill Programme is closely allied to the UK Government's Emergency Services Mobile Communications programme. SG continues to work closely with the Home Office and EE to ensure that new masts delivered through this UK-wide programme are futureproofed. This means providing site with fibre-backhaul and that masts are sufficiently robust to accommodate equipment from a number of providers.

4. Community Broadband Scotland

Established in 2012 and delivered through HIE, CBS continues to work with communities across the Highlands and Islands to deliver innovative broadband solutions in areas that won't have coverage delivered by DSSB. To date, it has approved grant funding of over £2.4m for 82 projects, and is actively supporting over 100 communities across Scotland – comprising more than 22,000 premises – to help them develop plans for faster broadband. Capital funding of around £2m has been approved for 17 projects which are now delivering live broadband connections to over 1400 premises across Scotland.

West Highland Access Network (WHAN)

Project planning and community engagement work is progressing on this 3 year research and development project to examine the technological and social challenges, implications and economic benefits of bringing together smaller-scale community broadband projects. The new social enterprise, West Highland Access Network (WHAN) created by representatives of the community groups in the project area to lead on community requirements is now operational. The 1Gbps backhaul service from the BT Mallaig exchange went live in August 2016 with the connection trials underway to community projects in Loch Hourn, Small Isles, Sleat and Glenelg. The project research and communications engineer is working to refine the delivery model for participating community organisations.

5. Enhancing the benefits of digital connectivity

Since 2015, the Highlands and Islands Digital Engagement programme has delivered 280 workshops to nearly 1,900 delegates. Topics covered include: social media strategy for business; website development and cyber security. 97 businesses have received a 1-1 Digital Review and action plan from a Digital Adviser through the PA Consulting specialist advice framework. In March 2016 the HIE Digital Engagement programme was replicated across the whole of Scotland and

rebranded DigitalBoost. DigitalBoost reaches out to the wider business base and will transfer to COSLA / Business Gateway in June 2017.

In 2014, HIE secured Digital Scotland funding to establish a Digital Scotland Excellence Centre at the Inverness Campus. The centre, rebranded #hellodigital, is located in An Lochran and launched in 2016. Since opening the centre has attracted over 1,600 visitors to events and business briefings on topics such as drone technologies, virtual and augmented reality. Partnerships have included Google, IBM, CENSIS, the Datalab and Microsoft. The facility itself contains broadcasting and video editing equipment. Digital Scotland funding ends in June 2017 and the Scottish Government will not fund any future operational activity or the development of the centre. The centre, rebranded #hellodigital, is located in An Lochran and opened by the DFM in 2016