Agenda – Economy, Infrastructure and Skills Committee

Meeting Venue:
Committee Room 1 – Senedd
Meeting date: Wednesday, 25 January 2017
Meeting time: 09.15

For further information contact:
Gareth Price
Committee Clerk
0300 200 6565
SeneddEIS@assembly.wales

Private pre-meeting (09:15–09:30)

1 Introductions, apologies, substitutions and declarations of interest

2 Video: Views from businesses around Wales – Digital infrastructure in Wales

(09:30–09:45)

Rhayna Mann, Senior Outreach and Engagement Officer, National Assembly for Wales

3 BT Group – Digital infrastructure in Wales

(09:45–10:45) (Pages 1 – 17)

Ed Hunt, Programme Director Superfast Cymru, BT Group

Attached Documents:
Research brief
EIS(5)-03-17 (p1) BT Group

Break (10:45–11:00)

4 Ministerial scrutiny session - Digital infrastructure in Wales

(11:00-12:00) (Pages 18 - 23)

Julie James AM, Minister for Skills and Science
Simon Jones, Director, Transport & ICT Infrastructure
Richard Sewell, Deputy Director, ICT Infrastructure Division

Attached Documents:

EIS(5)-03-17 (p2) Minister for Skills and Science

5 Paper(s) to note

5.1 **Scottish Government's Mobile Action Plan - Digital infrastructure in Wales**

(Pages 24 - 29)

Attached Documents:

EIS(5)-03-17 (p3) Scottish Government's Mobile Action Plan

Private de-brief (12:00-12:15)

Document is Restricted

Cynulliad Cenedlaethol Cymru / National Assembly for Wales

Pwyllgor yr Economi, Seilwaith a Sgiliau / Economy, Infrastructure and Skills Committee

Seilwaith digidol Cymru / Digital infrastructure in Wales

Ymateb gan BT Group/ Evidence from BT Group

Economy, Infrastructure and Skills Committee
National Assembly for Wales
Cardiff Bay
Cardiff
CF99 1NA

20 December, 2016

Dear Committee Members,

Call for Evidence: Inquiry into Digital Infrastructure in Wales

What is the performance to date of the roll-out and take-up of Superfast Cymru, including the extent to which the project has been communicated to people in the intervention area and interim targets have been met?

BT is proud to be delivering Superfast Cymru in partnership with Welsh Government. Wales is on the cusp of 90% coverage at 30mbps[i] when also taking into account coverage attributed to our fibre broadband commercial investments. Prior to Superfast Cymru, coverage was approximately 40%. Therefore the project has been a huge success so far, allowing benefit to be delivered to homes and businesses as the project has progressed. Ofcom's latest Connected Nations Report[ii] acknowledges the "good progress on the availability and take-up of communications services". Local Authorities in Wales that have had no coverage from commercial providers have seen significant uplifts in availability, such as Blaenau Gwent – was at 0% and now at over 97% coverage[i]. Wales has more fibre broadband as a percentage of coverage than Germany, France, Italy and Spain. Wales is also ahead of the other devolved nations.

By the end of December 2016, BT's fibre footprint through Superfast Cymru is forecast to have passed 700,000 premises. Welsh Government has verified that 620,000 premises can receive superfast speeds so far. It's worth noting that there is a lag between premises receiving a service and Welsh Government verification. There are premises in the 700,000 number that receive less than 24mbps and will not be classified as superfast - BT will be working on uplifting some of these speeds where viable.

An open access network has been put in place allowing a multitude of retail providers to offer their services. This competitive environment means ISPs are chasing business resulting in low costs for the consumer. It is important to note that BT's consumer business has equal access to the network alongside all other service providers.

The speed of rollout has been unprecedented, a fact not well understood by stakeholders. Superfast Cymru has re-used the wider UK experience of delivering high speed broadband to over 25 million premises. The equivalent of Singapore has been delivered every three months in the UK at its peak. Fibre to the Premise (FTTP) is being rolled out across rural Wales in particular. At this stage of the project with less than a year to run, very challenging parts of Wales remain to be completed. The outlook is positive and BT is committed to ensuring the schedule of work is achieved.

Superfast Cymru has a gainshare clause written into the contract which means that beyond 20% overall take-up, BT begin to return funding annually into an investment fund to spend on further broadband improvements. Take-up currently stands at c28%. BT made the decision in 2015 to bring forward £12m of this money (before even being accrued) for more coverage to be delivered earlier than otherwise would happen.

On communications, it is very difficult to predict availability dates for individual areas due to the number of factors which influence when infrastructure can be built. Factors include the ability to find power sources in rural areas that are cost effective, the need to apply for road closures that cannot be obtained immediately and land access. Land access is a particular challenge and time consuming to resolve. For example, in order to deliver 229 premises in Hirwain and 205 premises in Worthen, 11 and 10 wayleaves respectively need to be resolved. This takes time. It should be noted that BT is not contracted to deliver fibre structures by dates, it is contracted to deliver volume of premises across Wales. Whilst elected members see communication from constituents about 'delays', what they do not hear about is when service has been successfully delivered – as happens in the vast majority of cases. A recent report commissioned by Welsh Government identified that for every £1 invested, £6.70 in GVA will be delivered by 2024. With coverage on the verge of exceeding 90%, focus should be put onto driving exploitation whilst the build is allowed to complete.

Industry commentators have lamented the fact that Wales and the UK have not aspired to full FTTP. A report by Communications Chambers[iii] states that the UK does have one of the lowest FTTP coverages yet average speeds in the UK are higher than Spain and Portugal which have around 60% FTTP coverage. Japan has over 90% coverage but average speeds only slightly higher than the UK's average. The report concludes that there is therefore a poor correlation between FTTP

network and actual broadband speeds. It is also BT's experience that very few customers take up high bandwidth products. The same report mentions that Norway with very high FTTP penetration has just 8% of users choosing products of 100mbps or more. This of course is the case in 2016 but our infrastructure is there for the long term and where speeds are likely to increase over time has been built with expandability in mind.

Many countries with high FTTP penetration such as Japan, Korea, Spain and Portugal correlate closely with the percentage of people living in multi dwelling units. In the case of Spain and Portugal, c50% and 60% respectively live in multi dwelling units where deployment costs are very less expensive than the distributed way people live in Wales. The UK has less than 10% of people living in multi dwelling units[iii] thus the cost of deployment of full FTTP from day one would have been very high.

Superfast Cymru is the right project for Wales and BT the right partner to deliver it.

What work can Welsh Government do to improve mobile coverage, including use of the planning system?

Ofcom notes in its latest Connected Nations report that EE has the highest level of voice and data coverage in Wales. Nevertheless, EE has ambitious plans to go further for Welsh mobile coverage. We anticipate reaching c.90% 4G geographic coverage of Wales by the end of 2017 through upgrading our existing network and building new sites. We have also set an ambition to reach 95% geographic coverage of the UK by 2020 which will see further coverage improvement for Wales. At the end of 2015, EE won the contract to deliver a new 4G voice and data network for Britain's emergency services. The additional infrastructure being built to meet that contract will also benefit the people and businesses of Wales.

Low population density and the physical geography of certain areas of Wales make it challenging to deliver mobile connectivity. The Welsh Government can lower some of the hurdles mobile network operators face in delivering new sites by reducing capital and operating expenditures, and by amending the planning system to better reflect the importance of digital inclusion.

Capital Expenditure: Power is a major cost in building remote sites. Whilst costs are regulated, we would urge the Welsh Government to consider how they can contribute to the costs of laying power cables to new mobile sites, supporting the reduction of substantial cost barrier to new rural sites in particular.

The use of Government assets is a direct way in which Welsh Government can support mobile networks. The Scottish Government has already stated that the aim of initiatives to allow use of public sector assets is to improve coverage rather than generate revenue. This is a powerful statement of principle on the importance of the digital economy and we would encourage Welsh Government to match that ambition in its offer of public assets.

Operating Expenditure: Non-domestic rates can often have a bearing on the speed and extent of marginal sites. The Scottish Government is currently trialling rate relief on new sites in non-commercial areas, including the Isle of Arran and the Cairngorms National Park. A similar rate relief that covers new sites and upgrades to existing sites in the Snowdonia, Pembrokeshire Coast and the Brecon Beacons National Parks would improve the case for new sites in those areas, whilst not representing any loss of revenue to local authorities. Snowdonia National Park alone covers a third of the landmass of North Wales. By stimulating greater coverage, such rate relief could encourage new businesses into an area, with the associated positive impact on business rate collections overall. We also believe that a site that exists purely as a 'hop' site, to enable coverage in a more rural location and does not transmit coverage itself, should be exempt from business rates.

Reform of the planning system: New technology moves rapidly and with 5G deployment in the UK likely from the start of the next decade, the infrastructure that is built now will be key to how quickly 5G – and other technologies – can be rolled out in the future. It is therefore key that planning regimes and guidance meet the needs of the future, not the concerns of the past. Planning law in England has recently changed to support mobile network infrastructure and the Scottish Government has just closed a consultation on planning law in Scotland. Wales is lagging significantly behind.

The Welsh Government must implement improvements to the planning regime, including:

- Strong permitted Development Rights for small cells in protected areas
- Permitted Development Rights for upgrades to existing ground-based masts or structures;
- Permitted Development Rights for new ground-based masts
- Permitted Development Rights for emergency works.
- Addressing the issue concerning time limits to planning consents.

Moving towards the closer alignment of planning policy on fibre and mobile assets would also be welcome. Planning guidance should be technologically neutral as far as possible.

Welsh Government should also consider removing the time restrictions on planning consents. For example, in Snowdonia this is a particular problem where the planning authority seeks to add a ten year condition.

What has been the efficacy of the Welsh Government's other broadband schemes, such as Access Broadband Cymru and Ultrafast Connectivity Vouchers?

Welsh Government's two schemes are the most generous in the UK. BT is not participating in ABC as the money can only be used for connection and not the building of infrastructure. Informal discussions have taken place between BT and Welsh Government on our participation, but it would require a major policy change on their part. BT runs a scheme called Community Fibre Partnerships which allow not spot communities to work with BT to define a solution. This involves the building of infrastructure and not just connection to existing equipment.

BT is currently trialling participating in the Ultrafast Connectivity Scheme.

What are the plans for the Superfast Cymru successor scheme?

Welsh Ministers have announced that they will be releasing an Invitation to Tender in 2017 for a successor scheme to Superfast Cymru. This will be to address the not-spots in the last few percent of Wales.

Across other parts of the UK, Councils funded by Broadband Delivery UK (BDUK) and Local Enterprise Partnerships are requesting Ultrafast broadband, i.e. over 100mb capability and encouraging 1Gbps capability for business parks. Fixed fibre is therefore deployed to rural areas as far as possible before other solutions are considered. Wales should aspire to the same for a successor scheme and match this ambition. BT's G.Fast and FTTP solutions can achieve over 100mb and up to 1Gbps requirements respectively. BT strongly advocate taking fixed fibre as far as possible in Wales before considering other alternative broadband technologies. Developments in fibre deployment should mean fibre can go a lot further at a lower price point.

A successor scheme will only be able to intervene in the areas where Superfast Cymru has not benefitted. It is not anticipated that the 'intervention area' will be contiguous but very distributed and therefore very difficult and expensive to fill.

BT's network is open meaning retail providers can complete for business. Big names offering product bundles such as Sky, Talk Talk and BT Consumer all compete for a consumer's business. No other infrastructure provider offers such an array of retail competition. A non BT solution, would potentially see neighbours being offered a limited monopoly retail service even though the network would have to be procured as open access. It is BT's belief that customers want real and not a façade of retail choice.

BT have put forward plans to UK Government on meeting their requirement for a 10Mbps universal service obligation. We can deliver universal coverage without legislation or public funding with the right regulatory and policy environment and we are waiting for clarification from Government on how we can work together on this.

How could alternative technologies be used to improve superfast broadband and mobile coverage?

Fixed Wireless solutions have been deployed by publically funded programmes in various parts of UK including Wales. BT do not have any of this type of network in any of its BDUK funded programmes anywhere in the UK as we do not see them as sustainable. The actual performance of a wireless technology is dependent on 3 key variables: Distance of the user from the cell site or mast; the number of users active in the cell at any one time; the amount of spectrum available for use at the mast.

For any particular user in a fixed wireless system, two of these variables i.e. distance from the cell site and the amount of spectrum, will be fixed but the third; the number of active users, will vary throughout the day and in relatively unpredictable and uncontrollable ways. This makes effective prediction of user performance difficult for these networks.

As an analogy we can consider delivery of NGA via Fibre (FTTP or FTTC) as like a hosepipe delivering water direct to a garden. The amount of water coming through the hose and therefore available to the user on the end of the hose is predictable although water pressure in the mains system may drop slightly at very busy times resulting in slightly reduced flow. With

fixed wireless the same hosepipe can be considered as delivering the same type of fixed flow to the radio mast (determined by the amount of spectrum available) but in this case it is delivered by a sprinkler system attached to the hose. The water is spread over a much larger area of course and is thus available to lots more parts of the garden, but the actual amount of water each part receives is only a fraction of the total. It is possible to focus the direction of the sprinkler onto one part of the garden or another but in doing so other parts of the garden must effectively go without any water. Similarly the more the water is spread over a bigger radius of coverage the less there is to go around. The same basic principle applies to the distribution of bandwidth to multiple users in a fixed wireless system.

In assessing the ability of fixed wireless to deliver an NGA service it is therefore imperative to understand how bandwidth in any system will vary with distance to the end user and the number of simultaneous users that will realistically use the service in a particular cell area. This assessment will be critical to establish the sustained rate that users are likely to experience in any real deployment.

BT does not consider these technologies have developed to an extent where they are capable of sustaining NGA capabilities in any real network scenario i.e. where there are multiple simultaneous users spread over a range of different distances from the mast. These users will receive a sustained speed significantly lower than the theoretical peak speed achievable by a single user very close to the mast typically quoted in press releases etc.

In Sweden the government has recently committed to delivering total coverage by 2025. In doing so they have recognised a geographical split between the 98% who will receive at least 100mb from a fixed solution, with the rest getting at least 30mb from a satellite as this small percentage are too remote to receive a fixed service. Wireless is not being considered therefore for the bulk.

5G is in development, not mature and not expected to be commercially available in the timeline of the successor scheme. It is BT's belief therefore that fixed fibre solutions are the best.

On the mobile front, EE continues to trial new small cell technology in communities. Our small cells solution uses the 4G network to provide inband backhaul, which means they are not reliant on fibre being present at a community. Once built, this infrastructure can be used to support future technologies and the spectrum they will use. Reform of the planning system to ensure flexibility over the number of small cells that can be deployed under permitted development, including in National Parks, would be enormously helpful to the further roll-out of this technology.

EE is also considering the use of Airmasts to provide temporary coverage. The solution is particularly good for resilience issues. Like any infrastructure, a range of external factors can impact on service – for example, flooding, extreme temperatures, arson attacks, storm damage. Having a back-up option to deploy replacement coverage quickly will make a huge difference to the customers affected.

How could Welsh Government learn from international examples of public sector intervention in the roll-out of broadband and mobile coverage?

It is BT's belief that Wales is a leader in public sector intervention in the rollout of broadband. It is receiving a high performance fibre network for a low cost, less than Australia (£1,931 per premise), New Zealand (£699 p/p), France (£445 p/p) and Singapore (£355 p/p)[iii]. It is very difficult to run direct comparisons with other countries as their regulatory and planning systems are different.

Finally, the network being deployed in Wales by BT is competition ready and has a large and diverse ecosystem of retail providers operating on that network. Other countries have very different regulatory regimes where single national operators dominate at both a network and retail level.

Edward Hunt,
BT Group

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[i] Think Broadband: http://labs.thinkbroadband.com/local/wales

[ii] https://www.ofcom.org.uk/about-ofcom/latest/media/media-releases/2016/digital-divide-declines/superfast-broadband-in-wales, Ofcom, 16/12/16

[iii] Communications Chambers, Robert Kenny, "An Analysis of FTTP's role in UK Connectivity. The Evidence For a Targeted Approach"

Welsh Government

Written Evidence to the Economy, Infrastructure and Skills Committee Digital Infrastructure Inquiry

Superfast Cymru

Superfast Cymru is an intervention to provide superfast broadband connectivity to those areas in Wales where there has been demonstrable failure by the market to do so. Following an open procurement process an agreement to deploy fibre broadband to homes and businesses in areas of market failure was signed with BT Group in July 2012. Deployment of the subsequent Superfast Cymru project began in January 2013. The project intervention area contained some 727,000 premises.

Our contract requires BT to provide superfast broadband access capable of at least 30Mbps to 90 per cent of the intervention area. It also makes provision for a further five per cent at between 24 Mbps and 30 Mbps.

The project was extended to June 2017 to allow for the inclusion of 40,000 additional premises. The extension followed an Open Market review in 2014 which showed the number of premises that needed to be addressed under the project had increased, for example because of new build premises or where premises due for roll-out under telecommunications companies' own plans had not materialised.

The build phase of the Superfast Cymru project is due to be completed in June 2017. As with other major contracts of this size there will then be a six month window for Openreach to complete any in build elements ahead of a contract drop dead date of 31 December 2017.

The new premises within the project extension were 'blended' into the overall intervention area and an entirely new deployment plan produced to provide access to as many premises in Wales as possible. BT is required to deliver 690,000 premises by the end of June 2017 and reports that it is on track to achieve this. However it remains a very challenging project to deliver and progress is being carefully monitored.

BT is delivering superfast fibre broadband using two technologies, fibre to the cabinet and fibre to the premises. Fibre to the cabinet involves installing a fibre roadside cabinet close to an existing copper cabinet and connecting the two so that the broadband signal then travels to the home or business over the existing copper telephone cable. This is the most straightforward, cost effective and common option as it enables BT to improve the broadband for multiple premises at once

Fibre to the premises is more complicated. It involves extending a fibre cable to the premises itself. In many cases the solution for each premises is bespoke. This adds to the cost, complexity and time taken to deliver.

To date nearly 622,000 homes and businesses in Wales have been given access to fast fibre broadband as a result of the Superfast Cymru project. These are premises that would not have otherwise been covered by commercially driven roll-outs by BT, Virgin Media and others.

A consultation was held in the Autumn with the telecoms industry in relation to an additional £12.9 million to further extend the reach of the Superfast Cymru project this year. This is the amount that BT forecasted last year will be returned to the public purse through a gain-share clause within the current Superfast Cymru contract.

Detailed analysis and dialogue with BT will follow to ascertain whether this additional funding will enable additional premises to be reached through the Superfast Cymru contract by December 2017 and whether it will provide value for money.

In July 2015 the Minister for Skills and Technology announced in an oral statement that she wanted to see at least half of everyone who can connect to superfast broadband doing so. At the end of October take-up within the Superfast Cymru intervention area stood at 29.9 per cent. Independent research conducted on behalf of Welsh Government forecast a figure of 30 per cent by the end of 2016 and stated that 50 per cent is a realistic target for take-up by 2023.

Clearly, the aspirational goal for all stakeholders must be to strive for as much take-up as possible. While the Welsh Government acknowledges that it has both an interest in and a role in driving the successful take-up of superfast broadband services, the role of, interest of and delivery capacity of the wider retail broadband industry must not be overlooked. While the Welsh Government can promote the availability off superfast broadband in an area and can set out to consumers and businesses the benefits of the superfast broadband, it does not have the reach to set retail pricing, offer bundles, offer discounts and promote, advertise and sell attractive deals that drive consumers and businesses to switch between products and take-up services

The large internet service providers including BT, TalkTalk, Sky etc. spend many millions on their advertising and marketing campaigns and are likely to have the biggest influence on take-up of superfast broadband services.

Retail broadband advertising and marketing does, however, focus on specific segments of society, often centring on entertainment services.

In October, the Welsh Government launched a new multi-layered regional communications and engagement programme to raise awareness of the broader range of benefits of superfast broadband to consumers and to encourage use of the technology available to them. The campaign focuses on specific segments of society less likely to be influenced by mass marketing by ISPs.

It is being delivered in every local authority area in Wales between now and December 2017 through a blended approach of events, public relations, community engagement and advertising. Local authorities have been provided with a toolkit to promote the use of superfast broadband in addition to our own activity in each area. A new web presence on the Welsh Government website includes personalised advice for consumers to help people make more informed choices about their broadband.

This communications and engagement follows and builds on a previous communications and marketing campaign delivered alongside the deployment

programme. This campaign focused on the deployment plans for the programme highlighting where and when fibre broadband would be deployed.

A new £12.5m programme to ensure that businesses across Wales maximise the benefits of superfast broadband was announced in September 2015. Funded by the Welsh Government and £7m from the European Regional Development Fund, the project supports primarily small and medium sized businesses to understand, adopt and exploit the superfast infrastructure. The project builds on lessons learned and evidence gathered following pathfinder projects undertaken in Gwynedd, Rhondda Cynon Taf, Swansea and Blaenau Gwent.

The main features of the programme include:

- Direct business support and advice through Business Wales. Superfast business workshops, clinics and one-to-one sessions at a local level

- Research and intelligence, including the tracking and adoption and exploitation of superfast broadband by businesses and providing insight into emerging technologies to ensure new opportunities are included.

- Training and accreditation for business advisors who are delivering support on the ground.

- Champions for each local authority who will help lead engagement with their authority and local business community.

Mobile

Telecommunications policy is not devolved to Wales. Key levers to encourage improvements in mobile coverage rest with the UK Government and with Ofcom.

The UK Government reached a legally binding agreement with the Mobile Network Operators to invest a collective total of £5 billion (privately funded) guaranteeing 90% geographical coverage (including Wales) to provide reliable signal for voice over 2G, 3G or 4G, all by 2017. DCMS has advised these measures will lift the operators' combined geographical coverage from 69% to 85% across the UK.

The 4G spectrum auction licence which was awarded to Téléfonica O2 carries a coverage obligation of at least 95% of the population in Wales by the end of 2017.

The Welsh Government is working with the mobile industry and Ofcom to examine the levers available to the Welsh Government to create an environment in Wales that attracts further investment in extending mobile coverage.

One of the primary levers available is the planning regime. The Minister for Skills and Science commissioned research to look at changes and proposed changes to planning in England and Scotland on mobile phone infrastructure, their applicability in Wales and alternative approaches appropriate to the topography and population density in Wales.

The Minister also commissioned research into the operating costs of mobile infrastructure including looking at the level of non-domestic rates as well as into the use of public assets to host mobile infrastructure. The findings of all three pieces of research will form part of the discussion at the round table meeting.

The Minister will host a round table meeting later this month, which will include representatives from Ofcom and industry to discuss how mobile connectivity in Wales could be improved. The debate will focus not only on the plans of the industry to expand mobile coverage and capacity but also explore those levers available to the Welsh Government as highlighted above.

Planning is often highlighted by the mobile industry as a key lever. The Minister met with the Cabinet Secretary for Environment and Rural Affairs in the Autumn to discuss planning issues associated with improving mobile telecommunications infrastructure.

Planning officials are currently examining the scope for future changes to the Permitted Development Rights Order which will include examining the need to amend those existing rights for mobile telecommunications apparatus.

The emergency services mobile communications programme (ESMCP) will provide the next generation communication system for the 3 emergency services (police, fire and rescue, and ambulance) and other public safety users. The contract to deliver the infrastructure elements of the programme was awarded to EE. However, in some areas, including in Wales, the Home Office is providing funding to construct masts where it is not viable for EE to do so.

Welsh Government are working in collaboration with programme to look at how new Home Office funded mobile masts could be future proofed, where it is considered that wider benefits could be delivered. This may involve building larger mast basis and masts that can be easily extended over time. This would allow multiple mobile operators to install their transmission equipment to provide coverage in remote areas where building a mast is not commercially viable.

Access Broadband Cymru and Ultrafast Connectivity Voucher schemes

The Access Broadband Cymru scheme funds (or part-funds) the installation costs of new broadband connections for homes and businesses in Wales. There are 2 levels of funding available depending on the needs of the consumer and the speed required, £400 for download speeds between 10 and 20 Mbps, and £800 for download speeds of 30Mbps and above.

Since the changes were made to eligibility criteria at the start of January 2016 there have been 722 applications of which 128 have been approved and the installation completed and a further 302 offers of funding made. Common reasons for not continuing with an application are that superfast broadband has become available or that there has been an uplift in their traditional broadband speed.

The Access Broadband Cymru scheme will continue with a further £1.5 million over the next two years to ensure that this vital lifeline operates in parallel to Superfast Cymru and successor projects with equivalent funding in place to extend for a further two years beyond 2018.

The Ultrafast Connectivity Voucher scheme is available businesses across Wales to help meet the initial capital costs incurred in installing ultrafast broadband services. There are often situations where the cost of installation can include an expensive dig, the cost of which is passed on to the business customer. This scheme seeks to reduce that barrier. For the purpose of the scheme, Ultrafast is defined as greater than 100Mbps downstream, and greater than 30Mbps upstream. We are currently exploring whether these thresholds need to be adjusted. The maximum grant available is £10,000. It will provide 100 per cent funding for the first £3,000 and 50 per cent between £3,000 and £17,000. The business will be expected to match fund the remaining 50% and any further costs over £17,000.

Since the scheme started 50 applications have been received, of which 8 have been approved and completed, and a further 12 offers of funding made.

A review of the Ultrafast Scheme will shortly be undertaken with a view to assessing whether a different level of upload and download speeds could be introduced. Some businesses have indicated that they do not need the speeds stipulated by the scheme, and that the cost of the leased line that accompanies the speeds is prohibitive.

In parallel to these voucher schemes, we are also considering an opportunity to participate in the Broadband Delivery UK voucher scheme alongside Scotland and Northern Ireland. This will give consumers and businesses in Wales maximum flexibility and options to access the voucher scheme that best suits their particular circumstances and needs.

Superfast Cymru Successor Scheme

The Superfast Cymru contract will end at in December 2017. Work is already underway on the preparatory work necessary to establish a successor broadband investment project. An Open Market Review process is underway to establish at a premises by premises level where superfast broadband has been delivered and where the market plans to invest over the next three years. The process also includes engaging with the telecoms market help shape and inform a new intervention area and procurement strategy. Any successor scheme will focus on those areas where there is no planned intervention by the market.

Following the Open Market Review it is hoped that a procurement process can be launched in February 2017 so that a contract can be awarded in January 2018.

Any successor scheme will be underpinned by a public sector budget of up to £80 million which in turn, will leverage private sector match funding to further extend broadband coverage to the hardest to reach premises across Wales by 2020. This includes up to £50 million from the Superfast Cymru investment fund based on take-up of 50 per cent and £20 million over the next four years from the Welsh Government budget. Officials are also in the early stages of discussions with the Welsh European Funding Office to secure a further £20 million of Structural Funds to continue the roll-out of superfast broadband.

Alternative Technologies

The Welsh Government has maintained a consistent technology neutral stance throughout its broadband interventions. The Superfast Cymru project delivered by BT has seen an enormous deployment of Fibre to the Cabinet and Fibre to the Premises technologies. The Access Broadband Cymru scheme has funded solutions driven by a range of technologies from Fibre to the Cabinet to fixed wireless, satellite and mobile solutions.

The Business broadband infill project delivered by Airband Community Internet has delivered fixed wireless infrastructure capable of providing 30Mbps and 100 Mbps services to around 2,000 business premises at business parks across Wales.

The industry is also active in Wales trialling and deploying innovative solutions. For example, EE is trialling small cell technology in the Teifi Valley to deliver mobile connectivity to remote communities. Small cell technology is also being used to provide coverage to Llanbedr Airfield.

International examples

Officials routinely keep abreast of developments in the delivery of both mobile and broadband both within other areas of the UK and abroad through attendance at conferences, through industry focused literature and meetings with industry representatives. A review of best practice from other countries will inform the development of the successor project to Superfast Cymru. However, any scheme for broadband or mobile will need to be appropriate for the topography, population density, market and regulatory regime in Wales.

SCOTTISH GOVERNMENT – MOBILE ACTION PLAN

June 2016

Introduction

Ensuring high quality digital connectivity across all of Scotland is a priority for the Scottish Government (SG). We have set out an ambition for the availability of world class digital connectivity across Scotland, and we recognise that improved mobile connectivity is an integral part of delivering that ambition. SG has been working with the Scottish Futures Trust (SFT) to determine how we can most effectively support industry to deliver a 5G-ready infrastructure across all of Scotland.

The UK mobile network operators (MNOs) have demonstrated a clear commitment to maximise coverage, not least by investing substantial sums in rolling out 4G networks across the country. Significant progress is being made towards meeting 4G coverage obligations and the 90% geographic coverage agreement. Nevertheless, we collectively recognise that once commercial deployment is complete, coverage gaps will still remain in some of the most rural and remote areas.

SG also recognises that the costs of deploying new infrastructure to address mobile notspots is often prohibitively high, particularly when set against the limited revenues that can be generated where there are relatively few users.

Objective

SG and the mobile operators are committed to working together on a range of measures aimed at improving mobile coverage across Scotland.

We will identify where the gaps will be after commercial rollout and jointly design technology solutions and business models that will allow services to be delivered by operators in a sustainable way.

This action plan sets out tangible steps that will be taken by SG, alongside public sector partners, to support that ambition. These will aim to take costs out of operators' business models in non-commercial areas and will range from interventions such as business rates relief through to more direct interventions, such as investing in the construction of new or enhanced infrastructure.

It also sets out the steps that operators will take; to help design and shape these interventions and to make them as effective as possible. A key action is for operators to share future network deployment plans, to enable SG action to be targeted on the areas that it is most needed. We are jointly committed to building on the positive industry engagement to date and learning the lessons from failed projects elsewhere. Public sector interventions to improve mobile coverage in Scotland will be the product of genuine collaboration between industry and the Scottish Government.

Strategy Development: Partnership Approach

SG is committed to using any and all devolved powers to help overcome barriers to investment. We will also continue to make representations to the UK Government and Ofcom to ensure that the UK-wide legislative and regulatory environment supports mobile deployment in Scotland.

SG works closely with the Digital team at SFT, who provide technical, practical and policy support. This has involved developing and delivering technology/commercial pilots in conjunction with industry (such as the Coll project); leading our analysis of potential infill requirements; and engaging with Home Office and others to understand, and maximise, the impact of the Emergency Services Mobile Communications Programme (ESMCP) in Scotland.

Highlands and Islands Enterprise (HIE) is another key partner, liaising with operators and planning authorities to ensure that commercial rollout across the Highlands and Islands proceeds as smoothly as possible. HIE's work capitalises on local contacts and knowledge of some of Scotland's most remote and rural areas. This type of engagement is also taking place with local authorities elsewhere in Scotland, including those in the south of Scotland.

Key areas of activity & collaboration

SG is ready to intervene to make it easier for operators to deploy new infrastructure and deliver services to mobile notspots. We are committed to developing a package of measures, some of which could focus on reducing operating costs; others on capital funding requirements. All of these will be designed in collaboration with industry, recognising that operators cannot be expected to deliver services in non-commercial areas without the support of public sector partners.

There are 7 key areas of immediate action:

1. Non-Domestic Rates

Non-domestic rates are often cited by industry as bearing on the viability of marginal sites – estimated in many cases as around a third of the opex of a new mast.

From 1 April 2016, SG has offered non-domestic rates relief for new masts in non-commercial areas, initially as a pilot scheme on parts of Arran and Cairngorm.[1] [2] [3]

This is being taken forward as a pilot at this stage, pending forthcoming availability of data on future coverage, which will enable definition of a Scotland-wide intervention area. Our intention is to widen the scheme across Scotland if the pilot is successful, and if an intervention area can be accurately defined.

[1] http://www.legislation.gov.uk/ssi/2016/122/contents/made
[2] http://www.legislation.gov.uk/ssi/2016/129/contents/made
[3] http://www.gov.scot/Topics/Economy/digital/Publications/NDR-maps

The MNOs commit to sharing with SG (either directly with SG or via Ofcom, and under a Non-Disclosure Agreement if appropriate) their future network planning information by the end of 2016, and regularly updated information thereafter. This will enable SG to target a range of interventions on specified non-commercial areas.[4]

2. Planning

The Scottish planning system is established as having a key role to play in supporting SG's wider digital connectivity ambitions. In 2014, we legislated to extend permitted development rights for telecommunications infrastructure, removing the need to make a planning application in a wider number of cases.

However the industry has called on us to go even further. In recognition of this, we have commissioned and published new research which, amongst other things, contains evidence-based recommendations on the scope for further legislative change. **SG is committed to further reform of the planning system and later this year we will consult on detailed legislative proposals for the further relaxation of planning controls to support commercial investment in digital connectivity. We will also work in collaboration with the industry and other key stakeholders to prepare new online advice on planning for telecommunications.**

3. Public Sector Assets

We recognise that improved access by the telecoms industry to public sector assets has the potential to be a valuable part of a package of measures to improve the commercial viability of network deployment. It also offers another opportunity by which the public sector can accelerate mast development through means other than direct subsidy.

We are exploring a number of opportunities in this area – for example, around land owned by the Crofters Commission and Forestry Commission in rural areas. We are also engaging with the Cabinet Office to learn from its experience of having opened up public sector assets in England. While a ratecard system for valuation of assets may be useful, we want to ensure that the driver for any initiative in this area is improved coverage rather than revenue generation.

We are also looking at how we could provide industry with access to the ePIMS Lite property database that holds high-level property information on the estate portfolios of local authorities, NHS Boards and the Emergency Services. This data could help MNOs plan network deployment by identifying potential new sites.

[4] This data will be made available to the Scottish Government solely for use in its policy development. Mobile coverage data for public use is available at http://maps.ofcom.org.uk/check-coverage.

SG will engage with industry and other stakeholders to understand how industry "asks" and priorities in this area can be taken forward to align with SG's digital priorities (short, medium and longer term).

4. Innovative Mobile Solutions

We are keen to trial new ways of extending mobile coverage across Scotland. In 2015, SFT successfully implemented a pilot project on Coll, in partnership with Vodafone, which has delivered mobile services to the island for the first time and is testing the concept of a community-owned mobile mast. Vodafone is the core tenant, currently delivering services to the Coll community, whilst other MNOs are now engaged with us with view to using the mast to provide services. The mast is open to all operators but, unlike the UK Government's Mobile infrastructure Project, there is no requirement for all four MNOs to deliver services.

Additional projects in Arran, Tiree and Cairngorm are currently being developed and SG is keen to take these forward with industry partners now. The MNOs will consider their potential involvement as an anchor tenant for these projects and discuss these opportunities with SG/SFT.

Furthermore, SG is keen to position Scotland as a testbed for new technologies and business models; making connections with our thriving academic community and supporting operators' research and development agendas. We are already in discussion with EE as to the development of a project in Scotland and we keen to explore with industry how any opportunities could be maximised.

The MNOs will seek opportunities to locate in Scotland technology or other trials which may be in the pipeline, and discuss any such opportunities with SG/SFT.

5. Emergency Services Mobile Communications Programme (ESMCP)

The Extended Area Services (EAS) project within the wider ESMCP will deliver new publicly funded mobile infrastructure in areas where the emergency services need coverage but which fall outside commercial rollout. **SG is determined to maximise the wider coverage benefits of this new infrastructure; and to ensure that, where possible, these new masts are future-proofed and open to all operators.**

SG and SFT are working in collaboration with ESMCP to look at how we could future proof new masts being built as part of EAS, where it is considered that wider benefits (such as coverage to nearby premises or areas with high tourism footfall) could be delivered. This might allow us to fund enhancements to the specification of masts, where necessary, making them taller or more robust to enable the sharing of the site by multiple operators. We have assessed proposed EAS sites on an individual basis to identify opportunities for future proofing and SG welcomes further dialogue with the MNOs on this issue.

When details of new EAS infrastructure becomes known, the MNOs will assess the viability of using these sites in their network deployment.

6. Mobile Infill

Current industry investment in 4G infrastructure rollout is expected to significantly improve coverage across Scotland, however we recognise that there will remain some areas where it will not prove commercially viable to deliver services.

SG is keen to explore the potential for a national 4G infill initiative – focused on delivering new masts and enhanced backhaul connectivity.

For SG, a pre-requisite of any such scheme is the need for it to be designed in conjunction with industry; also taking into account lessons we have learned though our previous experience with the Coll project and from the UK Government's Mobile Infrastructure Project.

With regards to the latter, SG recognises that, in some circumstances, requiring all MNOs to deliver a service from each site may affect the overall viability of a proposed site. We would therefore propose that any new infrastructure subsidised by SG and its partners would not have such a requirement but perhaps be taken forward with one or two MNOs initially. However sites would remain fully open access and available to all MNOs on equivalent terms.

SG is committed to working with industry to develop an infill proposal in a way that enables MNOs to deliver services on as close to a cost-neutral basis as possible.

Potential options might include:

- Publicly owned masts;
- Community-owned masts;
- Joint Venture arrangements; or,
- Private sector delivery – but with public subsidy via grant or another funding mechanism.

SG sees development of this project as being vital to extending coverage; but we realise that it will only succeed if designed in partnership with industry. We, therefore, see collaboration on this project as a key early action.

7. 5G-ready infrastructure

SG continues to collaborate with SFT to scope what infrastructure will be required over the longer term to support world class digital connectivity in future; and how the public sector can most effectively intervene to stimulate and accelerate the necessary private investment.

This will include gaining a clearer understanding of what additional rural backhaul capacity may be required in Scotland to underpin longer term investment by the MNOs and also the capacity requirements to make Scotland “5G-ready”.

SG and SFT will jointly hold a workshop later this year to explore, with industry, these issues.

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