Written evidence from BT Group: evidence session on digital infrastructure in Wales

Executive summary

1. The importance of widespread and resilient digital connectivity has been thrown into even sharper relief as the UK responds to COVID-19. BT's networks and the UK's wider digital infrastructure have managed significant increases in demand and a reshaping of internet traffic effectively. The widespread coverage of superfast broadband (available to over 96% of UK premises, and 94% in Wales[1]), driven by BT investment and the successful Superfast Cymru programme, has enabled this. In addition, 4G mobile coverage continues to grow, with EE now covering over 83% of Welsh geography, more than any other network.

2. BT is committed to improving the digital infrastructure of Wales. We see four key elements to this:

   - **Continuing to support, through Openreach, the Superfast Cymru scheme to deliver at least superfast coverage as far as possible** – completing Phase 2 and starting Phase 3 (which will largely be via the delivery of gigabit-capable full fibre). As a result of this programme, 768,000 premises will now have access to 'superfast' or 'full fibre' broadband that did not previously. 710,000 already had that access by June 2020. BT has contributed commercial funding to "match" this public sector investment, as well as taking on all the operational expenses of the resultant network.

   - **Future-proofing Wales' digital connectivity through the nationwide roll-out of full fibre as quickly as possible.** The UK Government's commitment for all homes and businesses to have access to 'gigabit capable' broadband by 2025 is of key importance for Wales. Gigabit-capable broadband can fuel the long-term post-Covid economic recovery and maintain the competitive position of Wales, and the UK as a whole, post-Brexit. BT has committed, subject to key regulatory and policy enablers, to reach 20 million homes by the mid-to-late 2020s, investing over £12bn, with at least 3.2 million premises in harder-to-reach locations.

     However, significant policy and regulatory action is needed to create an effective investment and deployment environment to enable us, and other fibre builders, to sufficiently accelerate build and bring down costs, extending commercial roll-out and minimising further demands on the public purse.

   - **Ensuring the new Broadband USO is as successful as possible in providing a 'safety net' for those without decent connectivity today** – whilst recognising that it will not support the very hardest-to-reach premises, with alternative solutions needed. It is important to highlight that the majority of Welsh premises that do not currently have a fixed line connection capable of 10 Mbps can already get a 4G broadband product which will deliver at least a USO-level service today – so making people aware that other technologies can meet their needs (and supporting their access to them) is critical.

[1] **Ofcom, *Connected Nations* (December 2020)**

- **Extending 4G mobile coverage to increasingly rural areas and growing our 5G network.** Over the past three years, EE has invested heavily in Wales. We are currently delivering 78 new mobile sites in areas with no 4G from EE. As part of the process of delivering the new Shared Rural Network (SRN) programme, we will increase 4G geographic coverage of Wales to 83% by 2024, and to 88% by 2026.

3. This submission sets out how BT's view of how these challenges can be met. Specifically:
   a) How those premises that don't currently have access to 'decent' broadband should be supported, and what support is needed over and above the USO for that to happen
   b) The role of local, national and devolved governments in ensuring that as many Welsh homes and businesses as possible get access to 'full fibre' to home broadband connectivity by 2025.
   c) Ensuring that the potential of 4G mobile to deliver connectivity is harnessed through the SRN and the use of Home Office's 'Extended Area Services' mobile sites.

Connecting the hardest-to-reach premises in Wales

4. There are a variety of technology options available for the 3% of Welsh premises that cannot access a decent broadband service today. Ofcom has stated that 4G Fixed Wireless Access (FWA) can and does offer the capability to deliver a 'decent' broadband service. Ofcom estimates that 91% of premises in Wales have access to an FWA service, meaning of the 52,000 premises in Wales that cannot get decent broadband over a fixed line, approximately 35,000 could have access via an FWA network, providing an additional 2.3 percentage points of decent broadband service coverage in Wales.[2]

5. BT offers a BT 4G Hub product that is available to the vast majority of these premises.[3] Packages begin from £45 per month, providing unlimited data usage. Consumers can therefore use BT 4G Hub just as they would a normal fixed line broadband service. We will also provide and install an external aerial (free of charge) if the 4G signal in that area is only available outdoors. This ensures that a good wi-fi service is available inside the property.

6. Our immediate challenge is in helping those who live and work in these 35,000 premises to understand that this option is available to them right now. We would be very pleased to work with the Committee to ensure that people are aware of the alternative technology options available to them.

7. The remaining 18,000 (1.2%) of Welsh premises that cannot access 'decent' broadband, and have no current 4G FWA access either, may be eligible support under the Broadband USO. Since March this year, these 18,000 Welsh households and businesses have had a legal right to request a decent, affordable broadband connection from BT as the designated Universal Service Provider for the UK (apart from in Kingston-Upon-Hull).

8. Ofcom has also determined that a USO-compliant service must cost the customer no more than £46.10 per month. A 'decent' connection will enable a good quality experience when accessing all common internet applications including multiple TV streams, access to digital public services and

[2] **Ofcom, Connected Nations (2020)**
[3] **www.bt.com/broadband/4g-hub**

on-line shopping. Government has legally defined this service in technical terms as one that supports 10 Mbps download and 1 Mbps upload speed.

9. The USO requires BT to upgrade a premise's connectivity to meet a 'decent' standard at no cost to the customer, if the necessary works cost less than £3,400. In most cases, this upgrade work will deliver a gigabit-capable full fibre connection to that premises. Any resultant costs are covered entirely by BT, although in future it may be covered by industry collectively through a universal service fund. Although legislation provides for it, this fund is currently not operational.

10. We are currently in the final stages of writing directly to all eligible premises to inform them of their right to request under the USO. The infrastructure we build to serve a USO-eligible household will often also serve other USO-eligible households nearby, with these 'clusters' generally ranging in size from one to thirty premises. When costs are calculated, we take this into account and apply a further £3,400 industry contribution for 70% of the households in the cluster (a rate set by Ofcom based on expected take-up of the service). This is a process known as 'demand aggregation' and it enables us to reduce the per premise cost as far as possible.

11. If, after 'demand aggregation', the cost per premise remains above the £3,400, the customer has the choice of paying the excess cost above this threshold to trigger the build. The legislation is clear that end users must pay these excess costs. Unfortunately, the excess costs are in many cases significant, often reaching into five or even six figures. This is a result of the major engineering and planning work required to connect these hardest-to-reach premises.

12. BT is obliged to provide a quote for these costs, based on an Openreach survey, if requested by the customer, however large or small. When we provide this information, we are clear about what the work to deliver an upgrade involves and what other options there may be, outside the USO programme, to improve their connectivity.

13. We know there is room for improvement in how and what we communicate back to these customers – and we are implementing a new approach that makes it easier for them. We are also revising all consumer communications to ensure expectations of the USO programme are set more appropriately through our initial engagements, and that other options that may be available beyond the USO – such as Openreach Community Fibre Partnerships – are explained.

14. Alongside improved communications, we are developing a simple solution to enable customers to share excess quotes amongst their neighbours who would also benefit and where there are other nearby households that will share the upgraded infrastructure. Under this, customers will retain the legal right to trigger network build themselves (by paying all excess costs) but will also be given the opportunity to meet the costs together with others. Customers can register their interest in a cost sharing arrangement and when available we will contact them.

15. While we can take a number of steps to improve the USO as it stands, it should be recognised that the USO programme will not fully address the challenges of connecting very remote places, where the costs are prohibitive. This issue needs urgent focus from industry, Government and Ofcom to find alternative, cost-effective solutions beyond the USO where existing approaches are unable to provide adequate support:

16. We estimate that to connect all 'above-threshold' premises UK wide would cost in excess of £1 billion. We fully understand that the vast majority of customers have limited desire or ability to foot these bills and that they are frustrated that they have been asked to. Finding a cost-effective way forward may mean considering alternative technologies, such as satellite.

17. Clarity on the timelines for the Government's £5bn funding programme for rural full fibre and where it will be spent will also be key. This may directly cover some or all the remaining USO-eligible premises – but even for those it may not reach, it may enable us to reduce costs to connect these final premises and provide a viable solution for customers.

Delivering full fibre across Wales as soon as possible

18. Ensuring everyone has access to decent broadband is essential. But it is not the limit of BT's ambition. Last May, we announced a £12 billion investment in 'full fibre' to the home across the UK and took the difficult decision to cancel our dividend. This investment will allow Openreach to pass 20 million UK homes with new 'full fibre' connections. It will be a critical element of supporting Government in its ambition for 85% of UK homes to have access to better 'gigabit capable' connectivity by 2025. The key issue now is whether both BT and other network builders can deploy new infrastructure quickly enough to meet this target and can attract sufficient investment to fund the build.

19. In order to reach the build rates necessary to achieve the Government's target, all deployment barriers must be removed as quickly and holistically as possible. New independent analysis shows that without significant and urgent action, the industry is unlikely to be able to cover more than 70% of UK premises by 2025. The target contained in the UK National Infrastructure Strategy would not, under these forecasts, be achieved until 2029. Nationwide coverage may not be achieved until 2033.[4] The analysis is even more marked for Wales, where the forecasts suggest that as matters stand, only 61% of premises will likely be reached by this date.

20. The research also suggests that currently only about 75% of premises would be commercially viable for the market to serve without public subsidy. The remaining 25% (nearly eight million premises) would therefore require Government funding, well beyond the expected scope of the Government's £5 billion programme. Again, for Wales this is substantially lower – forecasts suggest that only 64% of premises are currently commercially viable for the market to serve. That means that the public sector, as it has with superfast broadband, is likely to need to subsidise full fibre connectivity to 36% of Welsh homes and businesses as things stand.

21. The November 2020 UK Government Spending Review has outlined that only 25% (£1.2 billion) of a planned £5 billion investment is allocated to be spent before 2025. This decision will come as a disappointment to those living in the harder-to-reach parts of Wales.

[4] www.bt.com/fibreforall

22. When looked at from a UK-wide perspective, in the average rural parliamentary constituency, only 58% of homes and businesses are likely to be commercially viable for the market to deliver 'full fibre' broadband.[5]

23. At the same time, the analysis shows that through a concerted action plan, the UK and Devolved Governments can substantially accelerate full fibre rollout in areas which are commercially viable, and where they choose to support the market in areas that are not. Greater momentum behind current barrier-busting efforts could dramatically reduce the time needed to deliver full fibre for all and substantially increase the number of premises that the market can deliver it to without any public subsidy.

24. Addressing key barriers could support delivery of full fibre to 92% of Welsh homes and businesses by 2025, and to 100% by 2027. They could also see the number of premises that can be connected by the market alone with no public subsidy from 64% to 73% in Wales, or an additional 138,000 premises. Such an increase would enable the scarce public funds to be focused on the areas of the country that really need it, enabling these funds to go further.

25. These reforms include:

    a) Reforming planning, 'wayleave' and streetworks rules to make it easier to lay new fibre all around the UK.
    b) Implementing plans to require all newly built homes to have open access fibre connectivity and improved access rights for operators into flats and apartment blocks. This is a specific responsibility of the devolved Welsh Government to deliver.
    c) Giving fibre builders the ability to make use of other infrastructure (electricity, water and other duct assets, including other telcos, where available) in order to deliver a new fibre network at realistic prices and on sensible terms.
    d) Support for a retraining and onboarding programme to ensure availability of suitably skilled engineers and deployment personnel to support fibre network design and build.
    e) Ensuring that Welsh Local Authorities allow the use of innovative approaches to laying new fibre in line with recently published UK Government guidance.

26. Furthermore, an exemption from business rates for new fibre build will significantly impact the business cases for commercial fibre investment. It would enhance the wholesale revenue aspect of any investment case and, importantly, significantly reduce the risk profile of that investment given the significant variability seen in business rates applied to digital networks at recent re-valuations. Removing this additional cost for fibre services and the risk that it could substantially change multiple times within the investment period would be a significant signal to investors of the Government's commitment to a fibre future.

27. Without such a change, BT's overall business rates liability is set to increase significantly as we transition customers to full fibre. This creates real disincentives – under the current regime the

[5] Forecasting methodology at www.bt.com/fibreforall Calculation based on the 121 most rural constituencies as defined by the House of Commons Library (https://commonslibrary.parliament.uk/research-briefings/cbp-8322/)

faster we make that transition, the faster our rates liability increases. We would therefore encourage the Treasury to prioritise digital infrastructure as it progresses its Business Rates Review, otherwise the pace and shape of our fibre investment may be affected.

28. A supportive regulatory environment will also be key. In particular, greater clarity is also needed on how Ofcom will treat the commercial 'bets' we are making on full fibre. Ofcom says it will make sure that these are fairly treated, should regulation be needed in the future – the so called 'fair bet'. Broadly this means that Ofcom will not regulate in the future in a way that would make investors re-consider if they had known what was coming. But to give investors greater confidence, what is needed is a more comprehensive statement by Ofcom setting out how the fair bet principle will apply in practice. This would be in-line with the Government's Statement of Strategic Priorities for Ofcom.

Delivering better mobile coverage in Wales

29. Mobile coverage has historically evolved in a different way to fixed line connectivity due to the more competitive dynamic that has existed at a network level. EE, part of BT Group, has invested heavily in geographic coverage as a key competitive differentiator and has the largest and fastest 4G network. Over the past four years, EE has built hundreds of new sites in rural locations and is upgrading its entire network to 4G. EE 4G now covers over 85% of UK geography and over 99% of premises. This has driven the aggregate industry footprint – where at least one operator is present – to 91%.

30. Whilst we believe that addressing total not spots – where no operator provides coverage – should be the priority, we understand the frustration caused by partial not spots, or areas where at least one but not all mobile operators have coverage. This is currently the case across 22% of the UK landmass. Wales has disproportionately more areas impacted by this issue – with 30% having coverage from at least one operator but not all four (with 60% receiving coverage from all operators and 10% currently a total not spot.

31. Gigabit-capable broadband can fuel the long-term post-Covid economic recovery; maintain the UK's competitive position post-Brexit; and ensure we are better prepared for any future lockdowns and pandemics. Meeting a 100% by 2025 coverage target could unlock £59 billion in productivity benefits for the UK.[6] As the operator of the UK's largest 4G and 5G networks, and the sole investor and shareholder in the largest full fibre one, we are clear 'Full fibre' will be the key technology for delivering the economic benefits this could bring.

32. We are clear that mobile will also play a key role in delivering faster broadband for many people. BT, through its EE network, is currently delivering the largest 5G footprint in the UK. We have coverage in 125 towns and cities nationwide. Increasingly, in areas where its available, 5G can be part of a clear path towards delivering faster broadband.

[6] **Analysys Mason Quantifying the Impact of Reducing Barriers to Fibre Broadband** https://www.bt.com/bt-plc/assets/documents/about-bt/policy-and-regulation/download-centre/2020/analysys-mason-full-fibre-policy-study-2020.pdf

The Shared Rural Network

33. As part of the process of delivering the SRN programme, we agreed with Ofcom that our licence to use spectrum should be amended to introduce new, legally binding coverage obligations. Under these, EE aimed to increase its geographic 4G coverage of the Welsh landmass to 83% by 2024, and to 88% by 2026. We have surpassed the first requirement, as EE now already covers 83% of the Welsh landmass with 4G.

34. he fact that we invested ahead of other networks means that we already have infrastructure in place that we can upgrade (through transmitting more and longer-range radio spectrum from each site) to extend and improve the 4G service we provide across Wales. We will therefore be able to meet our SRN commitments and deliver substantial coverage improvements without the need to build many new masts.

35. We want to deliver this improved connectivity to local communities in a way that minimises the impact on the natural environment. Because of that, we have offered to share, on fair commercial terms, our existing infrastructure with other network operators so that they can meet their own SRN commitments without the need for them to build a large number of new masts.

The Emergency Services Network and the Home Office Extended Area Services (EAS) network

36. Wales is a major beneficiary of new Emergency Services Network infrastructure, with 78 new 4G sites being built directly by EE as part of the programme to provide connectivity for the emergency services when the legacy Airwave system is turned off. We are making these sites active for consumer use of 4G as soon as they are ready.

37. Our 4G sites in Wales are complemented by a further 93 planned new sites being delivered by the UK Government under the Home Office's Extended Services (EAS) Programme. The Home Office has stated that: "Given the remote and rural location of some of this new infrastructure, it may be possible to use the [EAS] Programme to bring fast 4G commercial services to locations and communities which have previously had poor or no mobile coverage."[7]

38. EE has made a commitment that we will, wherever possible, deliver commercial 4G services from these sites. Many are in areas of Wales where there is no 4G coverage at all. As matters stand though, we and other providers are dependent on the Home Office to deliver the appropriate infrastructure to allow us to do so. For example, despite the fact that many of the masts have already been built, none of the 93 EAS sites in Wales currently have any 'backhaul' connectivity to the main core network and no process for supporting the ongoing maintenance of the site once operational. So they are not currently usable by commercial 4G networks.

[7] **https://www.gov.uk/government/publications/the-emergency-services-mobile-communications-programme/emergency-services-network#extended-area-service**

39. Ministers have told Parliament they have taken this view because of the operational costs that might be incurred if they progressed the sites as described.[8] In our view, a more holistic approach is needed across Government to this issue, ensuring that the EAS network can support those with no 4G coverage is soon as possible. Effectively, significant geographic areas of Wales are likely to go unserved by EE's 4G network and most likely that of other mobile operators as well, for up to five years as a result of the Home Office's current position.

40. We note that the Scottish Government has decided to address this issue in some limited circumstances in Scotland. A small proportion of the 123 new EAS sites planned for that part of the UK will in effect be delivered via the Scottish Government 4G Infill Programme. The Home Office will act as an anchor tenant on these sites, but the actual delivery of the infrastructure will be undertaken by subcontractors appointed by the Scottish Government. Some have already been activated for commercial 4G services on this basis.

Planning reform

41. Many of these new sites – whether delivered through the SRN or ESN – would likely require either full planning consent, or 'prior approval' Permitted Development Rights (PDRs) to proceed. DCMS is currently considering reforms to PDRs to make it easier to deploy sites in England. Application of these reforms in Wales would considerably accelerate the build progress through reducing the number of instances where these currently more onerous planning requirements are applied.

The Electronic Communications Code

42. Several other barriers related to policy and legislative issues impact the ability of operators to deploy new mobile infrastructure. These include the manner in which the new Electronic Communication Code (ECC) is used to establish operator rights for access to land and to resolve disagreements between landlords and operators over the terms of that access for the deployment of mobile sites. The Government is now consulting on reforms to the ECC to address these issues – it will be vital that current loopholes in the law, which create delay and additional cost, are closed to support the swifter roll-out of mobile connectivity.

BT in Wales

43. BT has a significant presence right across Wales and is proud to work with Welsh Government. BT is a major investor and employer in Wales – employing 5,060 people, which is 1 in every 170 in the private sector. We contribute almost £1bn in economic impact and spend £340m with suppliers based in Wales each year.

44. BT is at the forefront of driving technology change and securing the UK's digital infrastructure. The telecommunications world is changing rapidly and business, government and the people of Wales need to be aware of new developments and the potential they hold for increasing our prosperity and improving our quality of life. As a trusted service provider and advisor to private and public sector businesses across Wales, BT's specialist teams work in conjunction with external experts to develop and provide advice.

[8] **HC Deb, 10 June 2020, cW**

45. Through its partnership with the Welsh Government, BT has been leading the way in taking Wales forward into the digital age to become a truly digital nation. We deliver the unique Public Sector Broadband Aggregation (PSBA) network which provides superfast services to public service organisations such as schools, hospitals, police forces and national parks across Wales.

46. BT is at the forefront of 5G innovation, developing technology to deliver further benefits to customers including the NHS. BT works with customers to explore the possibilities and collaborate on a network that is best for the sector. This technology will unlock countless benefits including high bandwidth and increased responsiveness and offer massive connection power and fast speeds to help transform how healthcare is delivered, as we have demonstrated in our response to Covid-19.