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Welsh Government Response to the DCMS on:
Digital Communications Infrastructure Strategy – Consultation Document

Introduction

Q1. Is this an appropriate role for Government?

At home and in business digital connectivity is an intrinsic part of modern day life. Digital connectivity is now essential for businesses and is fast becoming the fourth utility for residents.

Public services are increasingly being delivered digitally and in some cases exclusively so. Also residents without reliable internet connectivity are losing out by not being able to access cheaper online goods and services.

The market has shown it is unable to supply reliable, competitively priced, fast broadband to large areas across Wales. Around 48 per cent of premises in Wales were not served by the commercial roll-out of fast fibre broadband. While not all residential customers in particular currently need fast fibre broadband, as more and more services and rich content become available online the need for greater speeds will only increase.

Similarly some businesses, particularly SMEs in rural areas, are unable to obtain a product that suits their requirements both in terms of speed or cost having to choose between slow standard broadband and more expensive leased line options. Industrial estates in particular have proved to be unattractive to the market for fast fibre broadband.

Given the market failure demonstrated and likely future demand Government at all levels has a role to play in ensuring equitable access to reliable internet services. Future demand for greater bandwidth beyond 2020 is difficult to quantify. However, there is a potential for further investment in infrastructure in the years before 2030. It is probably safe to assume some level of market failure in any new investment necessitating the need for intervention by Government.

Section 1

Q2. What potential opportunities are there for Government to leverage its combined buying power to support policy objectives?

The Welsh public sector network, the PSBA, is a good example of this in practice. Over 80 local and national government bodies and a range of other agencies/organisations covering a wide range of policy areas have collaborated to procure a single wide area network for Wales. The combined buying power has significantly reduced overall costs, to a lower level than

elsewhere in the UK, according to a number of independent studies which have been commissioned.

Providing affordable internet connections in remote locations will help support digital and social inclusion policies and also online public services. The cost of installing appropriate solutions can be prohibitive. Providing Government subsidy on a premises by premises basis can be cost effective for relatively small numbers of premises. However, the cost per premises could be reduced through Government procuring, for example, a bulk contract for satellite broadband or other remote services from providers at a competitive price to reach the final few percent of premises unable to receive superfast broadband by any other means. This provides value for money for the Government but also ensures that reliable and fast internet connectivity can be deployed in remote areas to support social and digital inclusion and online public services.

Section 2 – What will future demand look like

Q4. Is an ongoing disparity of broadband services inevitable? If so, should this be addressed and how might this be done effectively?

Yes. Particularly in highly rural areas, and areas with low socio-economic scores.

We have also seen a reluctance to invest in services such as Ethernet in sparsely populated area, or areas with relatively low levels of economic activity. This latter point means that businesses in those areas are charged a premium for accessing services which elsewhere are more affordable.

Further work to consider the impact of attaching coverage/capacity targets through processes such as spectrum licensing and regulatory overview, as well as consideration of a Universal Service Commitment for broadband/mobile data for those with significant market power over underlying telecommunications infrastructure on a local/regional basis would be welcomed.

Q5. How Symmetrical will digital communications networks have to be in the future? Will this differ across user types? What implications does this have for fixed and wireless broadband provision?

Networks will have to become increasingly symmetrical in future. Particularly as sharing of content, use of video conferencing, cloud services, etc become more embedded. The ubiquity of mobile devices with embedded HD cameras is one of many catalysts for this likely trend.

For cohorts of the user group such as learners, doctors/patients and business the availability of adequate upload bandwidth is likely to become increasingly important ands remote learning, e-Health and cloud applications take hold.

Some businesses already have a need for symmetrical networks and as more businesses take advantage of cloud services as a result of access to next generation broadband, such as data storage, and as the requirement to share data with clients the need for a more symmetrical services likely to increase. This will include SMEs as well as larger businesses. This will probably be seen first in those industries already requiring the ability to share information and content, for example, the creative sector.

The implications will need to be addressed by service providers.

This growing requirement for a more symmetrical service particularly for businesses needs in part to be met by the market through providing packages that provide a greater upload capacity. Infrastructure providers may look to new technological advances to increase the upload capacity of their networks. For businesses increasingly reliant on a more symmetrical service the lack of one may well be a driver to relocate.

Q6. Which countries should be our benchmarks on communications infrastructure to ensure that businesses remain in the UK and continue to invest?

Acknowledging that all countries will have different strengths and weaknesses with regard to broadband makes choosing a comparator difficult. However, there is a need to look beyond the current set of quantitative metrics such as coverage and take-up to a measurement of exploitation and benefit to the economy of the mobile and broadband networks. This will help to focus on the final outcome rather than on the route taken to achieve it as different countries will use different routes.

Q7. What metrics do you think should or will become relevant in comparing network performance in different countries? Which metrics should most appropriately be used as the basis to set objectives for government policy?

It is tempting to use a metric such as coverage or take-up as shorthand for the success of the network. However, their needs to be a focus on outcomes i.e. what difference has the network made to the success of the economy for example how much is it worth to the economy. This is not as simple as using one easy to understand figure but a more holistic qualitative and quantitive assessment will give a better benchmark for the success of the network.

General

Q24. Do you expect commercial providers to deliver future infrastructure and meet demand on a purely commercial basis, or is some form of public intervention likely? If public intervention is likely how might that work with the commercial provision of infrastructure? What form might that intervention take?

If near universal coverage of infrastructure is to be an aim then it is almost certain that some level of public sector intervention is going to be required.

For example through direct intervention as we have seen in the superfast fibre roll-outs, through end user schemes where a level of grant is provided to pay for infrastructure, through regulatory mechanisms, through easing regulatory burden for example the planning system, or through engagement with the industry to secure investment in specific projects creating open passive networks to create competition in certain areas.

The current model where public subsidy has allowed “commercial” infrastructure providers to expand their passive networks, without the reciprocal requirement that the expanded passive network be universally made available to others may come to be seen as short-sighted. This is as much a regulatory failure as a procurement issue.

Section 4 - Competition and Regulation:

Q27: How might efficient investment in communications infrastructure be supported, for example by changes in the regulatory framework?

Access to passive infrastructure, particularly publicly subsidised passive infrastructure, is important. This would allow competing active networks to be built in areas where the “market” has failed to deliver; for example Wales is particularly poorly served for services such as Ethernet.

Wales has a relatively poor choice of infrastructure providers because of issues with the terrain and the relative wealth of the country mitigate against investors taking on the huge costs of building alternative infrastructures from scratch. However, competition and diversity of telecoms supply are critical to the type of economy we are striving to create in Wales.

The regulatory review which created Openreach ten or so years ago was undertaken at a time when the majority of end users were satisfied with services delivered primarily over copper. Now fibre based solutions (for fixed services) are seen as the most viable way of addressing ever increasing bandwidth demands. Openreach are effectively required to permit others to use their copper asset (through LLU for example), but no such requirement exists for their fibre asset.

We appear to have a copper based regulatory settlement over Openreach, echoing a bygone era, at a time when more and more the world is moving to fibre based solutions. The regulatory settlement does not appear to address this satisfactorily.

Given the huge amount of public subsidy which is currently extending the Openreach fibre footprint, this seems all the more out of step with the needs of the economy.

So, perhaps as a first step consideration should be given to obliging Openreach to make their passive fibre network available to the market. This would allow others to innovate, creating a richer competitive market.

Q28: Are there any further measures necessary to incentives the roll-out of future mobile infrastructure in currently underserved areas?

There are a number of barriers for the mobile industry to deploy mobile infrastructure to enable increased network coverage, from planning to land acquisition and power among others.

Pressing ahead with the changes to the Electronic Communications Code recommended by the Law Commission would be a good start. It is not reasonable that landowners can effectively prevent communities from having decent mobile coverage, because they have chosen to charge significantly more for telecoms infrastructure than for example, electricity supply infrastructure.

For 5G mobile there is an opportunity to put in place a coverage obligation both indoor and outdoor coverage to provide mobile access and services across larger areas of the country.

Q29: Is there a role for a revised USO or USC to ensure that minimum consumer demand requirements are met and to reduce the potential for a new digital divide? What might this look like?

Telecommunications is a dynamic market and Government should ensure that it is cognisant of changes to the market. The Welsh Government is of the opinion that current initiatives and activities in telecoms should be exploited. As part of the future strategy the UK Government should consider updating both the USC and the USO to align with the current developing landscape. Whilst the Welsh Government is already making steps to encourage all public interventions are capable of providing superfast broadband speeds (in excess of 24Mbps, moving to 30Mbps) there is an opportunity to enhance the definition of basic broadband under the USC and align with what will likely become the de facto speed standard of broadband access.

Wales does not currently have the powers to legislate in favour of including broadband in the USO. Consideration of doing so on a UK level would be welcomed, although we recognise that the complexities of doing so in a competitive market may prevent substantial progress. However, an evolving USC at UK level may be a good starting point.

Q31: Are there changes to the EU Framework that the UK might seek to encourage more competition in UK markets?

Greater clarity around the tensions between EU framework and State Aid/competition is required.

For example, if a public authority builds a telecoms network, the passive elements should be made available to commercial telecoms companies. This has not been tested in the UK – we do not know what the reaction of existing infrastructure providers would be to this.

In terms of building regulations, we are inclined to agree that a requirement for carrier neutral duct access is necessary.

Further consideration should be given to how to overcome the situation where incumbent passive operators seek to prevent others from making use of duct entries to buildings (new or exiting).

Q34: How can the regulatory framework keep up to date with new business models and changes in technology?

The telecoms regulator needs to be given the freedom to regulate, without the apparent constant fear of drawn out legal challenge.

The current model is broken, the regulator does not have sufficient ability of act effectively, and cannot therefore react swiftly enough to a rapidly evolving landscape.

Q35: Are there any changes to legislation other than the Communications Act that would incentivise the provision of communications infrastructure?

The Welsh Government agrees with redrafting the Electronic Communications Code (ECC) to include a clear definition of the market value landowners could charge, as this will provide all communications infrastructure network operators with a clearly defined range of costs based on assessed land valuations. Furthermore the ECC should seek to support Permitted Development Rights in so much as to enable rapid deployment of telecoms infrastructure enabling increased coverage and capacity to citizens, as well as creating an economic stimulus for developments of new technology applications.

As business rates are being reviewed separately the Welsh Government will withhold comment and provide a response to that particular consultation, when available.

Public sector sites are being considered for use in Wales currently, in terms of open access duct networks and sites for mobile operators to consider to extend network coverage across the country. Public sector sites should also be considered along the same rates calculation as landowners, as revenues generated can be used to support public initiatives.

Section 5 – Facilitating and Encouraging Investment:

Q37: How might copper access networks evolve over time alongside other access technologies? Is there a role for policymakers in helping manage the transition from copper to other networks?

See response to Q27.

Q38: Views are sought on whether there are any additional actions the Government should consider to ensure:

b) Aside from legislation and adapting the regulatory framework in the broad sense which other actions should the Government take to encourage investment in communications infrastructure?

Encourage land and property developers to build suitable duct infrastructure to support telecommunications networks. Make data about available open duct routes available to interested parties. Stipulate all new developments, both business and residential, will need to be built with the appropriate infrastructure in place to support FTTP (ducts, internal space, etc.) This will enable businesses which relocate to Wales or expand into new premises are capable of gaining business broadband connections on an uncontended basis, enabling competition with operators to serve these premises, as well as enabling choice to the end-user.

c) That potential investment in the provision of digital communications infrastructure offers a suitable risk and reward profile to ensure that they can be financed by the private sector

Government needs to work alongside the private sector to stimulate private sector investment in telecommunications infrastructure, to maintain and / or at best increase economic growth through investment and reinvestment in telecoms infrastructure to support businesses and citizens. Government has the opportunity to take prospective initiatives to the private sector and present demonstrable demand-side evidence to act as a catalyst for change and encourage private sector investment. This is something which the Welsh Government is already actively pursuing to meet policy objectives, stimulate economic growth and encourage inward investment.

Q40: How can we maximise the current R&D and innovation UK landscape to help take advantage of the opportunities provided by future technologies? What needs to be done by Government and its agencies and industry to tackle any gaps?

The current R&D and innovation landscape in the UK and Wales can be maximised and incentivised to take advantage of digital communications applications by the development and delivery of policy by (the Welsh) Government which recognises and encourages the use of some of the 8

Great Technologies (8GTs). This means identifying which of the 8GTs will contribute to policy development and delivery and then matching these to the drivers of digital communications infrastructure development.

An obvious example would be the Internet of Things and the wide-spread application of healthcare and care-of-the-elderly personal monitoring devices via mobile digital communication infrastructure to healthcare providers. In this way, real-time remote patient and elderly monitoring can take place thus reducing the need for regular face-to-face engagement. This will require the need for secure, reliable, always-available digital mobile communications which handle regular, low packet size data exchanges.

The above example is essentially a personalised and sophisticated two-way digital-apps communication application. In this area, R&D and innovation could be driven Government funding initiatives such as A4B (Academic Expertise for Business in Wales), the Innovate UK (previously Technology Strategy Board) SBRI (Small Business Research Initiative) programme or the KTP (Knowledge Transfer Programme).

Q41: In which future communications technologies do you consider the UK has, or could achieve, an international leadership?

The UK could achieve leadership in optical and photonic communications technologies and related computing capability. High band-width, high data volume communications based on optical fibre and optical data processing is one area. The UK already has leadership in some aspects of these technology areas and with suitable investment, this could be extended and expanded to cover many other areas. Compound semiconductor light emitting and receiving devices, which are key to optical fibre communications is a strong area in the UK. This area needs to be expanded. ‘Advanced Materials and Nano’ is one of the ‘Eight Great Technologies’, as recognised and defined by the Government Office for Science and the UK Cabinet Office and ,as such, this would be a key area for R&D and innovation investment in Wales and the UK.

Q42: What more could Government and industry do to exploit future technologies, associated new applications and emerging business models?

More could be done to exploit future technologies such as by creating a business support environment which encourages R&D and innovation. This could be done by focussing the existing and future business innovation and R&D support and specific programmes of investment (such as through the Research Councils, Innovate UK and Welsh Government) into areas of key digital communications technology. The above example of optical communications and photonics driven by advances in compound semiconductors is an example.

In addition, university-driven fundamental and applied research into new digital technologies areas can be encouraged through specific funding as is

being down through UK RC and Innovate UK and, in Wales, through directed funding through various specific programme initiatives.

However, given the above three replies, it is difficult to see how Government can take a more active role without taking more direct control of how research is funded and supported. This would go against some of the principles in which research has been funded traditionally in the HEI sector (for example the Haldane Principle).

Q43: What role might local bodies have in facilitating the future delivery of digital communications infrastructure?

Local Bodies / Authorities will support the Welsh Government to encourage use of digital communications infrastructure, to reduce the impact of a digital divide, encourage long-term unemployed to use e-training to up-skill and re-enter the labour-market.

Q44: How can council's maximise the digital communications infrastructure in their local area to support their work on economic regeneration?

Local Authorities in Wales can through the use of existing and future channels (such as Digital Champions) encourage exploitation of telecommunications networks to both businesses and citizens of Wales.

Local Authorities are encouraged to support the Welsh Government's digital initiatives as well as those from UK Government, such as MIP. LAs can support the identification of "early adopters" and bandwidth heavy users to potentially trial new R&D innovations.