

When it comes to digital strategy, my thoughts turn to connectivity. High-quality connectivity is rightly seen as key in driving productivity and the competitiveness of the UK economy. And there is a lot to be proud of in what has been achieved to date. But there is a desire for even better digital services to be made available widely and at reasonable cost. The challenges for infrastructure providers like us are bigger than in the past – both in fixed and mobile. So the time is ripe for a re-think about how we get there and whether certain market and policy frameworks are better than others and why.

Superfast investment has been a success story and in some ways this makes the path to ultrafast trickier

Matt Hancock says that we have the best superfast connectivity in Europe

He talks about the strong digital economy in the UK (with the highest percentage of individual internet usage); he also talks about superfast BB being available to 95% of premises (so really good rural coverage compared to our European peers); and he talks about digital technologies driving economic growth.

He also points out – correctly – that there's more to do

We need to make sure that everyone has a decent broadband service so we understand the government's desire for an USO – and had, in fact, offered to provide the necessary infrastructure through a proactive network build by the end of 2020. Offer not taken up but we will engage constructively with Ofcom on the USO scheme.

And we need to turn our attention to full fibre which is the future proof solution

But when folks are broadly happy with what they have, we've got a bit of an upsell challenge – and the challenge is even harder now that Ofcom has lowered Openreach superfast prices which – when it filters through into retail prices – will make customers even happier with their superfast service. All good if you are happy for investment to wait for ultrafast demand to emerge, but not great if you want investment now ahead of demand.

So some changes are needed to deliver the investment we all agree is needed

Other countries with lots of FTTP have been bolder in their choices

They have either stepped back from certain forms of regulation to kick start rival network build (Spain, Portugal), or they have stepped back from competition but delivered significant investment by a single provider supported by a clear and transparent regulatory regime (New Zealand). In the UK, we have neither of these models just a heck of a lot of regulation.

We think that more can be left to the market where there are competitive pressures

Even if that competition is prospective, the market might be entrusted to deliver investment without as much regulatory micro-management as we see now.

At the very least we could remove some of the key tensions

Passive access is clearly intended to promote network competition but hard to see how very cheap access to BT's network is helping to tilt incentives towards investment by rivals. Effectively, buyers of access to

BT's network (including FTTP) has a very attractive call option – hard to see them sharing risk in this environment.

But we also need to create the right conditions for universal provision – to avoid the hard to reach being the last to serve again

Network competition will not be national phenomenon For the simple reason that the deployment economics are different in different parts of the country. So we may get some great outcomes in some areas but harder to deliver a very wide roll out at similar prices between different geographies

With the right enablers, investment can be brought forward Including in areas where the deployment economics are not so favourable. Policy and regulation can support the transition of customers from legacy to full fibre networks. It can allow pricing which reflects the full value of the enhanced services which FTTP is capable of supporting and, it can allow for fair recovery of the costs of the platforms which will be prematurely retired (where investment will continue to be needed up to the point of SO).

And in remote areas some external funds will be needed Perhaps adopting an “outside-in” approach this time to make sure that FTTP is supported in remote communities

Finally, investment challenges are not just limited to fixed network; we need some barrier busting to put us on the best footing to be 5G leaders

We are committed to 5G investment But investment in 4G deployment now, and 5G in future, is difficult because of certain barriers which cause delay and increase cost.

There are some easy wins here Average site takes about 18 months to acquire and build. If this could be halved with the use of standardised agreements and with simplified planning rules, it would have a dramatic effect on speed of deployment and getting to scale quickly

And of course support for fibre deployment will help 5G As will ensuring cost-effective access to power supply to mobile infrastructure... power to remote sites is a large part of the cost of new site deployment

In short... A supportive policy environment is needed across the piece if speed of 5G deployment is going to match, or beat, that of other countries. And worth bearing in mind that 5G investment cases in the UK (in many cases) are competing for funds which can be allocated to 5G cases in other countries if those countries create a more favourable investment environment.

Digital skills

- As well ensuring people have the right connectivity, they must have the skills and tech-know how to make best use of the connectivity and how it can work for them in shaping their future.
- We need future workers in **cyber security, digital media, data science and specialised diagnostic skills**, to remain competitive and be at the forefront of customer and business global requirements
- But the nation faces a major challenge: **the next generation are great tech consumers, but few are active creators** – and there is a **major gender bias** that leaves an untapped pool of talent
- So we are investing in the next generation and we are committed to help build a culture of tech literacy for UK
- We are focused on three crunch points: (i) **the early years** (our Barefoot Computing Project provides free resources to primary school teachers and support from BT volunteers) (ii) the **transition to teenage years** where we can use the things love like BT Sport to bring alive the relevance of tech (iii) and **transition to work** where we have disadvantaged young people with hands on skills development and work experience
- But there is a lot that government can do here through education policy to ensure we have the skills that are vital for the UK; and to support investors in skills like BT
- Couple of ideas. Government could
 - invest in **co-located academic training centres** that enable universities to draw upon the industry expertise
 - support the **creation and re-location of high-growth companies** such that they have direct access to talent and the sector ecosystem
- Our R&D programme benefits enormously from being co-located (at Adastral) with a number start ups, the R&D teams of large tech companies, and through collaboration with UK universities

Cyber security

- People are rightly concerned about the security of their communications
- The same applies to Government, where defeating the cyber attackers is as much about our national security as it is about our financial security
- This is key issue for BT and key R&D focus (we are one of the largest investor in R&D in the ICT sector)
- Our labs at Adastral are leading the world in the development of what's called Quantum Key Distribution, (a technology that by utilising single photons can guarantee the security of data transmitted over a fibre link)
- And we're developing the cyber experts of the future, training