



Communications and Digital Committee

Corrected oral evidence: BBC future funding

Tuesday 5 April 2022

2.30 pm

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Members present: Baroness Stowell of Beeston (The Chair); Baroness Buscombe; Lord Foster of Bath; Lord Griffiths of Burry Port; Lord Hall of Birkenhead; Baroness Harding of Winscombe; Lord Lipsey; Baroness Rebuck; The Lord Bishop of Worcester; Lord Young of Norwood Green.

Evidence Session No. 8

Heard in Public

Questions 67 - 73

Witnesses

I: Shuja Khan, Chief Commercial Officer, Arqiva; Catherine Colloms, Managing Director, Corporate Affairs and Brand, Openreach.

USE OF THE TRANSCRIPT

This is a corrected transcript of evidence taken in public and webcast on www.parliamentlive.tv.

Examination of witnesses

Q67 The Chair: This is a meeting of the Communications and Digital Committee. We are on the eighth session of an inquiry we are carrying out into BBC future funding. We are delighted to be joined by two panels of witnesses. I emphasise that we are now broadcasting live on the internet, and a transcript of this session will be taken and subsequently published. Could each of you introduce yourselves briefly?

Shuja Khan: Thank you for inviting me. I am the chief commercial officer at Arqiva. Should I introduce Arqiva?

The Chair: It would be quite helpful briefly to hear what Arqiva does.

Shuja Khan: Arqiva is the national infrastructure provider for digital terrestrial TV and radio. We essentially manage the network, which is a bit like the rail network—it is used by all the broadcasters, commercial and public sector, and we cover 98% of the country with our infrastructure. The service that we deliver is available to anyone in the UK for free, as long as you have a radio or TV receiver. The BBC is one of our customers.

Catherine Colloms: I am director of corporate affairs at Openreach, which is the nation's broadband network. We have the largest nationwide broadband platform across the UK. We are a wholesale provider, so we work on behalf of over 600 communication providers—that is what we call them, but they are effectively the retailers—namely, organisations like TalkTalk, Sky and BT as well as lots of smaller operators. We have the broadest network in pretty much every community in the country: about 86% of the country is on the Openreach network in some way or other.

Q68 The Chair: You are both very welcome. We have invited you both today because this session is about how things are developing technically in the distribution and consumption of television and radio. We want to explore the opportunities that this creates and perhaps dictates for different funding options to be considered, and what needs to be done to move from the way things are now to, perhaps, a wholly online world in the future.

As I say, we know that most television is currently consumed via DTT, or Freeview. Could you give us an indication of how you see trends developing from the way things are now to perhaps something different, including a wholly online world in the future?

Shuja Khan: The landscape is unambiguously changing—I would be the first to say that—because the advent of streaming apps has made a big difference. It is fair to say that approximately half of the adult population of the UK is now consuming using these online streaming apps, such as Netflix, Amazon Prime Video, Now TV and so on. That amounts to approximately 18% to 20% of total viewing, so, although DTT has the largest share of viewing—live in particular—those apps are taking a greater share, and they have grown at about 20% per annum. Going forward, I expect that growth to slow somewhat, but to continue to grow

in the coming years. The main reason for this is that those who have not yet adopted those streaming apps are the less well-off, the elderly, the technologically less confident and those who live in rural areas. That is my first point on that trend.

Secondly, the proliferation of these streaming apps has also changed the dynamics of the free-to-air market. Freeview, which the Chair referred to, is underpinned by digital terrestrial TV and is the primary way of consuming in about 11.4 million households in the UK, which approximates to about 43% of total households. Interestingly, the platform has grown by 1.5 million over the last five years. Many might think that a bit odd because you would expect digital terrestrial TV to be in decline, but there is an interesting trend at play here. Many of these Freeview households, which may have been pay TV households, using services such as Virgin Media and Sky, are now switching to Freeview and supplementing this with these apps. So Freeview is the heart of the home, in terms of consumption, and it is then supplemented. To put it slightly differently, it has gone from having one pot of TV to a tapas of TV, with people picking and choosing their consumption.

But there are a few crinkles in that story. First, there are significant regional consumption variations. I said that the average across the UK is 43%, but we recently conducted a study that found that, in some parts of the UK, reliance on DTT is about 55%. In Wales, for example, it is 55%, and in the south-west it is about 53%, so there are some big differences. It is 38% in London, unsurprisingly, so being conscious of those regional variations is quite important.

Secondly, there is quite a big difference in consumption between the demographics across the UK. On average, people consume about two hours and 48 minutes of TV a day, but if you are over 65, you are consuming five hours a day and, if you are over 75, you are watching north of six hours a day. So there are some big changes. Given that we are an ageing population, that consideration needs to be taken into account.

Finally, some groups are often overlooked by the mainstream commentators. DTT is highly relied upon by organisations such as prison services in many parts of the UK, care homes and the like. Those buildings have DTT literally hardwired into them; that is a consideration that everyone should be aware of. We have found, certainly with the service that we provide, that organisations are quite concerned about a switch away from DTT, where we have had some service restrictions.

So although broadcast viewing is changing, we are losing about 2% to 5% per annum in terms of viewership. I think that there will definitely be a plateauing of that going forward and that there will be a mixed ecology between DTT and other technologies.

The Chair: Before I ask Ms Colloms to comment, just to be clear, when you talk about DTT plus apps, you are talking about DTT plus Netflix or Amazon.

Shuja Khan: Exactly—streaming apps. That is right.

Catherine Colloms: To add to that in terms of our network, we can definitely see that usage of the network is growing exponentially. If we think about the volumes of traffic that we have on it, we look at annual data consumption in petabytes. A petabyte is 1 million gigabytes; a gigabyte is 1,000 megabytes. A normal superfast service, which is the ubiquitous network that is currently rolled out across the UK, is around 30 megabytes, so you can see the volume of data that we have here. In 2019, our annual data consumption across the network was 22,000 petabytes. Last year, it was 62,000 petabytes. So we are seeing an exponential rise in data, which is very much driven, as Shuja said, by streaming services and more services moving online and potentially using broadband connectivity to stream.

In terms of where we think it is going, historically, you had fewer TV and other services available over the broadband network, partly because of availability and partly because of the speeds that networks provided. That is not going to be an issue as we move forward. Currently, as I said, we have a superfast network. It is not entirely Openreach but is quite a large amount through Openreach; it also includes other operators, such as Virgin with its cable network, and small operators. It gets to around 97% of the UK at the moment; the Ofcom statistics say that 97% of the UK population can receive speeds of up to 30 megabytes per second.

To give you a bit of context in terms of what that would do in streaming, classically, you need about three megabytes to stream a normal-definition TV programme. You need something like five or six megabytes if you are going to do a high-definition film. It depends on who you talk to but you would potentially need, as Netflix would say, something like 20 to 25 megabytes if you want to stream in 4K. You could potentially get away with less, but that shows you that what we have at the moment is theoretically still deliverable through the network we have in place.

That said, what is happening in terms of broadband connectivity in the UK is that we are transitioning from the old technology we have to the new full-fibre technology. The Government's manifesto target is to get to 85% by 2025. As Openreach, we are building 25 million premises by the end of 2026. We imagine that there are about 32 million or 33 million premises in the UK. So we will still have this existing technology, which will support streaming and other kinds of activity, but it is increasingly going to be replaced by a full-fibre technology that is gigabit capable and would allow you a much greater degree of bandwidth speed. It also has much lower latency, which allows for things like gaming and other kinds of interactivity across the network.

Historically, availability and speed may potentially have been a barrier to some of these services. As we have seen ubiquitous connectivity across the UK, and as we transition, the actual connectivity will not be the barrier. We have effectively future-proofed the network. We are starting to see some of our own customers move to putting their own services and streaming services over the broadband network. Sky Glass, in particular, uses the broadband network as opposed to using dishes. So

we are starting to see a bit of a shift in the trend as well, not just through the pop-ups such as Netflix, but in some of our own customers translating their historic services away from satellite and other technology to broadband.

The Chair: At Openreach, do you have a date in mind? When you look at how things are evolving, have you settled on a point at which things will tip over?

Catherine Colloms: In terms of upgrading the network, as I said, we will do 25 million homes by the end of 2026. That is a balanced build as well, so we are not building just in towns, cities and suburbs. Some 6.2 million of those are in rural Britain; Ofcom defines that as area 3, which is the toughest bit of the UK. There are others building at the same time. Virgin already has a large cable network that covers 50% to 60% of the UK and is currently gigabit-capable, so two-thirds of the UK is gigabit-capable today off the back of both the build we have done, which is approaching 7 million premises, and the Virgin network. There are some alternative networks out there as well: CityFibre and some smaller operators are building in individual areas.

The manifesto commitment—the government objective—is 85% full-fibre coverage by 2025. The remaining 15% is in what are at the moment the non-commercial bits of the UK. That is being tackled by Project Gigabit, which is effectively a subsidised government programme that goes out to procurement; different operators choose to build in these more difficult subsidised areas. That has a longer tail—Project Gigabit goes through to 2030 and after—so we will not have ubiquitous full-fibre coverage until into the early 2030s.

Q69 **Baroness Harding of Winscombe:** I want to explore in a bit more detail the operational and technological challenges that you would need to overcome if the BBC were to be moved to a different funding model where it was either partially or totally behind a paywall. I am aware that you both have competing networks. I ask you to try to think about the technological and operational challenges in the round, not just for your particular network, if that was the policy choice that the Government took. What do you see as the major challenges, and how would you overcome them practically if we wanted to move to that form of funding model?

Catherine Colloms: Could I just ask a specific question? Is this funded by a broadband-specific mechanism or just behind a paywall?

Baroness Harding of Winscombe: Beyond some form of paywall, so moving away from the licence fee for access. Let us start with full or part subscription, rather than the payment mechanism being independent of the delivery of the service.

Catherine Colloms: Theoretically, from a broadband perspective, it should be relatively straightforward in the sense that, as long as there is a gating mechanism, it would be very similar to the way you serve Amazon Prime, Netflix or any other subscription service at the moment. We, as Openreach, effectively provide the network and its architecture.

We then have retailers, such as Sky, BT or the smaller operators, that sell a package on top, often including content. Then, obviously you can purchase through your own broadband network and smart TV whatever services you want. Effectively, what would happen is that the apps on your smart TV, assuming you have one—

Baroness Harding of Winscombe: So then the technological and practical barrier is that, without a smart TV, you would not be able to access it on your television. I know I am asking basic questions.

Catherine Colloms: No, it is a good question. I would need to go and ask our technical guys how we might overcome that if you do not have a smart TV. With a smart TV, it is the same as accessing any other subscription service, but I will go and ask. I will write to the committee to let you know.

Baroness Harding of Winscombe: What we want to try to explore is this: it is easy to set out the barriers but, practically, how might you, over a period of five to 10 years, make this a possibility? If you are saying that, fundamentally, the barrier is that everyone needs a smart TV, that is quite a substantial value-for-money barrier for people. Is that technically removable as a barrier?

Catherine Colloms: Again theoretically, if you buy it as part of your retail package, that would be the other classic way to do it. When you go to whatever retailer, you have your broadband fee and can then add on, as at the moment, all sorts of different channels and subscriptions. You can basically say, "I want to add this on". That would then have to be delivered via the retailer. It is possible in the construct of how we do things today but let me check exactly how that would work; I will write.

Baroness Harding of Winscombe: Can we move to Arqiva and the DTT network? Mr Khan, talk us through the technical and operational barriers.

Shuja Khan: I think you are coming to the key point here, which is how you differentiate between those people who have paid and those who have not. As I said in my introduction, Arqiva, a bit like a rail network, has coverage across the whole of the UK. Like a rail network, it is accessible to all. You come on it and you can use it. It does not matter who you are: as long as you have a radio or a TV, you are able to access it. What we would have to do is build a ticketing system around it; that is crucial. It would be very similar to IP and what is referred to as conditional access. We would have to build a conditional access-type technology that sits around our infrastructure to allow people who have paid and are eligible to watch content to do so. To do this, you would usually have to have some sort of IP connection alongside for it to work.

At the moment, our network is configured to be a one-way network. What you need is a return path that says, "Does this person have access? Yes, they do". You would then open up the TV service to them. This would not be straight forward. It would require quite a lot of investment to put together that ticketing system because, as you can

imagine, there are lots of ways of coming into the network, so you have to make sure that the ticketing system sits around it.

That is one of the things that we have to do. The second thing is that our network is configured. It is very efficient because it carries all the channels in one go. We combine all the TV channels, then we send it out and transmit it to the rest of the country. Whether it is radio or TV, it is exactly the same. The thing about the BBC having to have one funding model and everyone else having a different one is that you would have to separate those things out. The other broadcasters on the DTT system are funded by advertising, by and large—in fact, they are all advertising funded, including some shopping channels and so on—so they are part of that system.

I would have to package that all up and have a separate lane, or potentially even a separate network area, for the BBC. The rest would then be able to go through the existing network, so you would have to build quite a lot of complexity into the system to essentially deliver the same service.

Baroness Harding of Winscombe: Could you just scale it for us? How hard would that be? I appreciate that that is quite an open-ended, difficult question. I would have thought that, in a digital world, separating two streams is not very complex. I just want to push a bit to understand quite how hard this would really be.

Shuja Khan: I think you are pushing rightly. It would be extremely hard. If you have ever been to visit one of our base stations, you will have seen that what we do is combine them. We would have to go and split that up. We have about 1,100 towers across the UK for TV services and a few more on top of that for radio services. That work would have to be done on each piece of our infrastructure. We would also have to do some work on the operational side of things to be able to deliver it. I do not have a number for that but I can tell you that it would be complex and quite expensive.

Baroness Harding of Winscombe: And it requires physical changes as well as digital changes?

Shuja Khan: Absolutely. Baroness Harding, I also want to answer one of the other things in your preamble to the question you asked. You said that we are on competing networks. I am not sure that is the case, actually. I will address that, if the Chair will allow me.

I said that we are a bit like the rail network; I think that Openreach is like the road network. It is very possible for those things to sit side by side. On a road network, we all want to be able to have our own car and drive it because that gives you the most flexibility. That is analogous to what video on demand is. However, the rail network has a purpose: it gets to all the different corners of the UK. For example, 75% of our towers are needed to get to the last 10% of the country. So the areas you refer to as hard to reach are exactly the ones that our network is there for, and that investment has been made already. I do not think it is necessarily a head to head, although we are sitting next to each other

like this, between our respective networks. They can work quite nicely together.

There is an element of an environmental dividend that comes from our network as well. Because of its efficiency, it is somewhere between a half to a third better in terms of its carbon footprint for that reason. We just use energy at one point in time—when we are doing the transmission—rather than all the elements of the chain, which is what you have with IP technology. I just wanted to clarify that.

Q70 Baroness Harding of Winscombe: I have one other follow-up question; it may be an ignorant question. As more and more viewing moves away from linear channels, regardless of how the payment model works, how does each of us choosing what to watch and when we want to watch it affect the way the Arqiva network works? My understanding is that, fundamentally, you are in the business of transmitting a channel. Irrespective of how it is funded, if our public service broadcasting over the next decade shifts to the vast majority being “choose what to watch”, how will that affect the network?

Shuja Khan: Actually, you have it about right. We broadcast all the channels in one go. We have a distribution network that sort of concatenates across the network but, fundamentally, it is that. There is no efficiency in terms of reducing the number of channels in any kind of mature way. We still need the 1,100-plus towers for our distribution network. Actually, we are pretty efficient in how we have structured the whole thing. Just because the number of viewers is decreasing, that does not change the cost of delivering the service.

Baroness Harding of Winscombe: Is it fair to say, using your analogy, that what I am describing is a world where people move from rail travel to road travel because I would be in my car, choosing exactly where I go, rather than going on a pre-determined route at a pre-determined time?

Shuja Khan: If I may say so, if everybody got on to the road, you would have congestion and it is really important to realise that. Where there are moments of national importance or crisis, as we found during Covid, the viewership of linear went up. The last figures for 2020 and 2021, when lockdown happened, show that linear viewing went up by about 10%. With things like watching the Euros, when we reached the final, 20 million-plus people watched it. It is fair to say that that type of demand hitting the IP networks can hamper the quality of service quite substantially. I used to work at Virgin Media, so I am very familiar with that side of things.

The Chair: Presumably, at the point at which we have the standard of broadband you talked about earlier, that kind of pressure would be eliminated.

Catherine Colloms: At the moment, our network is architected to withstand spikes. The network is only as good as on 28 December, when we had four live games running on Amazon Prime at once, or when we have a “Call of Duty” download; it used to be when the next Apple iOS

update came out. We have to architect the network not for normal usage but for these really heavy peaks. On the single busiest day in 2021, when we had those four Amazon games, it was 222 petabytes of data at that moment. Annually, the average daily data consumption was something like 100 petabytes when flattened over the year.

So we architect the network to deal with these peaks but it is massively over-architected because you get these very unusual peaks throughout a year—probably two or three. As you say, for the network architecture as we move to full fibre, we need the backhaul network, which will enable the kinds of speeds and data that are go through the network, but you should not have the congestion issues that we are describing. The whole point is that the network is architected to be able to take these huge peaks.

Obviously, there is our own network, which is our access network. There are sometimes local networks and different communications providers. The retailers sometimes have their own unbundled networks and cut things in different ways. Virgin is architected in a slightly different way, so it is not ubiquitous on that absolutely not going to be a problem going forward, but you will certainly have less of an issue with contention latency and reliability when you have a full-fibre network.

The Chair: I have one last supplementary. In 2018, Ofcom was estimating that a move to online only would not be possible for about 10 years. Is that still the case?

Catherine Colloms: It depends on what you want to do. Today, 97% of the country can access up to around 30 megabits. That is enough for most people to do most things, and that is the network we ran on during Covid. So while I appreciate that there will be individual experiences in some places where that has not worked, it has kept the country going. It is the thing that has stood up and allowed us to work from home and run these committees from home. That was the backbone of the network. We are transitioning to the new network but, at the moment, you can do a Zoom call and have someone streaming a film in another room—probably even a high-definition one, as long as it is not 4K—in Scotland on your superfast network.

We are upgrading the network mainly to future-proof it. So, with the full-fibre network, you do not need a gigabit today in terms of what it provides. It definitely is more reliable because copper has a habit of not interacting very well with the British weather, so given that we have an all-fibre network and an all-glass network, there will not be issues with reliability to the same degree. It is also much better for latency—that is, speeds going up and down on the network.

We are basically future-proofing something that will theoretically allow you to do most things today, but it will not be 2028 when we get a full-fibre network; I think it will be into the 2030s because it is that really tough final 15% of the country that, as you say, is classically served by some other mechanisms. We still use things like satellite, fixed wireless and other mechanisms to get to those few final per cent.

Lord Foster of Bath: This is a small point. Picking up on some of your earlier remarks, TV and video on demand—all that streaming stuff—is only part of the use of your network. We can see that all that is obviously going to grow and is getting faster, although there will be some linear viewing for a long time. What other areas of use of your network should we be concerned about, where there can also be huge growth? Presumably, video games might be one but I do not know.

Catherine Colloms: As you say, the network is used for a huge variety of things now. When we talk to people about the importance of broadband, a lot of them say that, frankly, they would rather the broadband stayed on and the water went off in emergencies. We totally understand the absolute criticality of people having great-quality broadband that is reliable. The usages are enormous. As you say, gaming is one that is definitely high-bandwidth and uses quite a chunk of the network. You have everything from our entire lives, from interacting online to online shopping, working from home, desktop-table businesses and schooling from home. As I said, the network is architected to be able to deal with all this as it goes on.

Lord Foster of Bath: I am just interested in the other threats to a potential move to all TV viewing being online.

Catherine Colloms: Our assumption is that, if someone can find a way to do something online, they will. So a lot of things will shift online.

Q71 **Baroness Buscombe:** In the same vein, let us talk about the overview of changes in distribution for radio and audio, bearing in mind that we are thinking here about the feasibility of different funding models. It has been very interesting listening to what you have said so far because what I am thinking is that all you are doing, in terms of the architecture of change, has perhaps not hitherto involved any thinking about funding models for our connectivity and our access in the way we are looking at it for the BBC at the moment. There is that ticketing you mentioned.

Shuja Khan: I am going to regret saying that, I think. Have we thought about different funding models? We think about our customers all the time. Whether they are the likes of ITV, Channel 4 or Sky, they are all customers using our network. Ultimately, we get paid for providing a service that has a level of service quality and reach in terms of how extensively it covers viewers. Those are the parameters, so we are not a consumer-facing business. In fact, we are a business-to-business business. We are two or three layers back; that is worth noting.

When we think about the level of service or reach that our customers want, if they want less reach, we will be able to do it for less; if they want more reach, it will cost more money. Those are the very simple parameters. Service quality means things like outages. If the service was disrupted for a period of time, we would need to make sure that it was back up and running—within a matter of seconds, actually. The service quality we deliver for our broadcast customers has 99.99% reliability. Those are the things we think about.

If our customers had a different funding model, obviously we would have to adjust to that. The point I was trying to make is that our customers have different funding models. The BBC has a licence-fee funding model, ITV has an advertising funding model and we have customers whose shopping channels have a different funding model. So, although our service is ultimately about getting that content out to as many people as possible and the digital terrestrial platform, the great thing about it is that it has amazing reach. As I say, it covers 42% of households in terms of its primary use; that is 17 million households. It is nearly 60% of households if you add second TVs in homes as well.

That is how we look at it. You will have to forgive me but it is not so easy for me to separate those things out and say, "Well, I'm going to give this model to this customer, and that one to that one".

Baroness Buscombe: We are focusing on the technology and possibilities going forward over the next 10 to 15 years.

Shuja Khan: Yes, the bifurcation. That is a much harder thing for us to do. I will take that question away and see what the implications could be from the cost and operational complexity point of view but, at the moment, that is how we deliver our service.

Baroness Buscombe: What about the changes in consumption in terms of radio and audio?

Shuja Khan: Shall I talk a little bit about radio? It is pretty robust and resilient in terms of listenership. It has been pretty stable over the past five years and is very well loved across the UK. Nine out of 10 adults listen to the radio at least once a week, so it is very popular.

There are different technologies that deliver radio. Many of you will be familiar with AM, FM and DAB. Now, there is increasingly IP-based technology as well. To give you a sense of what the proportion of usage is, the majority of it is live; people do listen to the radio live. That is pretty consistent across all platforms. Analogue radio makes up about 40%—actually, just under, at about 36%—of all listening. DAB is about 40%, then there is another 15%. So it is still a big share: if I take digital radio—DAB—AM and FM together, that is 80% or so, which is quite substantial.

The technology we use is very similar although the actual components are different. We have different equipment for DAB and FM, but it uses our existing infrastructure. The great thing about the model we have is that we are able to use the same infrastructure for TV and similar infrastructure for both DAB and analogue. It is a shared infrastructure across it all; that is how things are delivered for our service.

Baroness Buscombe: Okay. Catherine, can you comment on the changes in consumption?

Catherine Colloms: Effectively, what we as Openreach do is to facilitate content delivery. We have a network by which retailers deliver a service—this could include a package, with many subscription items—to a customer. I have to say that, for us as Openreach, how the BBC is

funded does not necessarily matter to our USP and what we do because, ultimately, we are giving connectivity for a retailer then to sell the service on.

Where we do have a view is that some of the proposals mentioned in the past, including one funding model that was proposed by the BBC with the idea of a broadband levy, do not feel proportionate. This is partly because people will be using broadband for lots of other things, not necessarily accessing the BBC. It is now such a lifeline: people may use it for accessing local government services; farmers will use it to put their returns through. It feels slightly unfair or unequal basically to put a standard charge on something that is not necessarily used.

Baroness Buscombe: But what we are interested in is the feasibility from a technological standpoint. Technology is changing exponentially all the time. We are not necessarily looking to you to have a view on whether a funding model of one particular type or another is a good thing. What is the art of the possible from a technological standpoint? Do you see it as possible?

Catherine Colloms: Yes. Again, I will write and have a think about how exactly we might do it, but it is no different to the content providers, which are effectively the retailers that sit above our network, having a sort of ticketing system. Effectively, you buy different things in a package and we provide the bandwidth that has that package.

There is an interesting thing about the idea of ubiquity, which I have talked about, and equal access. To come back to a question that the chair asked on looking forward to the future, we are rolling out this new full-fibre network, but not equally everywhere. The current superfast network is in 97% of the UK, and the new network is being built, but we are doing so in a way that means that some areas and demographics are potentially being left behind. That is partly a function of our inability to access certain bits of the UK or certain premises: we are finding it difficult to access blocks of flats, which can sometimes mean social housing and which, effectively, are often in more deprived inner-city areas. We are also finding it slightly harder to build in rural areas because we have issues with access to land. In a Bill that is going through the House at the moment, we have asked for some changes to make that easier.

Ubiquity is critical for a universal service such as the BBC, but although the existing network is pretty ubiquitous, the new network will not be. Where it is rolled out will not be completely equal, so we will see a potential new digital divide in certain areas because we are unable to access certain places to build it at the moment.

Baroness Buscombe: Although it is not possible to do it at the moment, is there a possibility in five years' time?

Catherine Colloms: Hopefully. To build this network, we effectively have to either cross land or get into blocks of flats to install the new network, so it is all effectively a wayleave issue—a legal access and property rights issue.

We are currently finding it very different to build in certain areas, such as rural areas and blocks of flats. We have proposed amendments to a piece of legislation that is currently in the Commons—it will no doubt come before this House—to allow us easier access, which would mean that we would not have those problems. At the moment, the legislation does not fix them, but we hope that they will be fixed. This would mean that, as we build the network, we would not leave behind these pockets of places, so we could have a more equal rollout.

Baroness Buscombe: That is important, thank you.

Shuja Khan: There is an important difference between TV and radio—namely, where the consumption happens. A quarter of radio consumption happens in cars, which is probably not an area that Openreach covers—that is important to consider. Actually, DAB is now the standard that goes into cars: at the moment, about half of cars have DAB, and the majority will be DAB-enabled by 2030. The alternative technologies for car consumption will be different from TV, and it is probably important to consider that. Our network obviously works really well here because it is all in rural areas, the road network and so on. The alternative would be a mobile network, which is how you would have to serve that particular use.

Baroness Buscombe: We are also thinking about the World Service. The BBC are looking for the World Service to reach an additional 500 million listeners across the world over time, so that is another aspect, is it not?

Shuja Khan: Yes, and things move quite slowly in the world of radio. For example, just under 1 million FM-only radios were still sold in 2020—that technology is two generations behind what we are talking about. To give you a sense of the pace of change, long-wave radio still exists and people are still using transistor radios. Things move slowly in this particular world, and five years is a very short time for this technology—radio in particular.

Baroness Buscombe: I just plucked five years out of the air, because some of us on this committee have had the fantastic experience of visiting companies, particularly in Cambridge, where technology is moving at such a pace. The art of the possible is incredible, to my mind, as someone who is not very techy. One almost feels that any glitch can be overcome by some brilliant young mind in quite a short space of time. That was very helpful.

Q72 **Lord Foster of Bath:** In a sense, I will also talk about digital radio switchover, which you covered to a large extent. We are aware that there is a problem with the availability of networks on our roads—it is a bit difficult now that we are talking of road networks and rail networks, but there is a difficulty on our actual roads.

There are advantages for some of the major broadcasters, particularly the BBC, which is required to provide its services on all available platforms. Switching off the analogue radio system would save the BBC an amount of money—we can ask how much it might be separately.

What other benefits can you see in moving to switching off analogue radio? What would the spectrum that would be released be worth these days, if people looked imaginatively for uses for it?

Shuja Khan: Unlike the TV spectrum, or the 700 megahertz spectrum which was recently auctioned off, the radio spectrum has less of an alternative-use value—sorry, that is an economic term—

Lord Foster of Bath: Before you go beyond that, on the use of that spectrum, is that because people have thought long and hard about all sorts of innovative uses for it but have not been able to come up with a solution, or is it because no one has really thought about how to use it? Spectrum is being used in amazingly different ways now compared to even 10 years ago.

Shuja Khan: That is true. For example, at Arqiva, we use the 400 megahertz spectrum for connecting smart meters: it has the right frequency and characteristics to do the thing that it needs to. Can I answer in written form on the question on what the alternative uses of that spectrum could be? But that question could be posed just as much to Ofcom and others about their understanding of it, because they are ultimately the ones who manage spectrum across the whole of the UK.

I do not feel that I should repeat myself on this, but we are quite far away from that switchover, for the reasons that I just articulated. The use of analogue is quite prevalent across the whole of the UK. On the device penetration, those devices still exist and are around, and people are very heavily reliant on them. They are a real connection for people to the outside world, and particularly important in moments of loneliness. I have talked about the fact a large proportion of cars still have analogue as their main radio service.

The key advantage that UK plc would benefit from is that it is better for the environment. Analogue technology is old technology and energy inefficient. Some of the valves and transmitters that we use are very old; they were set up at a particular time and do not use energy very efficiently. DAB is newer technology, so it is automatically configured to be better for the environment. The key dividend, for those around this table, is that you would get an environmental benefit and it would be good for reducing carbon emissions.

Catherine Colloms: I am not sure I can add that much more on radio, unfortunately.

Lord Foster of Bath: With the TV switchover, there were a number of the problems that you are describing for radio but we set a target date, everyone got their act together—including the British public—and we had a very smooth switchover. It seems to me that with radio we are taking a different approach, which is saying, “We’ll wait until everything is absolutely perfect and hunky-dory and then we’ll switch it off”. I just wonder if, in your view, that is a fair reflection.

Shuja Khan: DCMS recently set up a radio review, which I am sure many of you will have come across, and it has published its report. I was a member of that review. I think a task deadline was set in 2015 for that

switchover but it did not happen. I think the circumstances are different for TV. The penetration of devices is at a different stage from where we were when that came about. The actual economic dividend of the spectrum is a lot less than it is for TV. The mobile spectrum is worth quite a lot and there was a financial benefit from selling that spectrum for mobile uses, particularly around 5G, which there was a huge demand for. In effect, the alternative uses for that spectrum were there.

The other issue to remember is business models. We are focusing on the BBC here but there are three big commercial national broadcasters in the UK, and they are managing multiple networks. They are still driving the advertising revenue of the analogue network, but that revenue may well be lost if they feel that there to be a switchover. They had concerns when we had those discussions, saying "We should wait until later when the usage of analogue is much lower because the financial, economic and commercial risk is substantial". That is what I observed in that discussion and it is something that the committee should also be thinking about. The analogue-to-digital switchover in TV did not have as much of a commercial implication as it does in radio.

The Chair: Going back to some of the things that you were saying about the development in technology and new innovation that is done by other companies—whether from companies that we might have visited in Cambridge or just innovations that come from those broadcasters or media companies—how much pressure are you under from them to change your distribution methods or improve things, or do you feel that you are very much in the driving seat? Who is pushing who here?

Catherine Colloms: We do not feel that we are necessarily being pushed by individual companies per se—the amazing Silicon Roundabouts and start-ups in Cambridge or anywhere else. It is on an individual basis, not least because we are the wholesaler behind the scenes, so there is not that kind of pressure. That said, what we as Openreach see increasingly—this has definitely intensified post pandemic—is individual bases of people recognising that they need great connectivity, perhaps after seeing great full-fibre connectivity in action either somewhere else in the UK, or at their friend's or their mum's house, and wanting it very quickly.

We have a good broadband infrastructure backbone in the country; as I say, the superfast network is what got us through Covid and a large proportion of the people in the country are still on it. While we now have 60% gigabit penetration of those probably 10 million full-fibre lines, that does not mean there is the same take-up. You have to try to transition people off one thing and potentially persuade them to upgrade to this new service. The fact that we have all these new lines does not mean that people are using them yet.

The pressure that we see is from individuals like yourselves. It comes very much from the other House, and from communities that are desperate to get better connectivity or have businesses or other enterprises in the communities where they want them. We tend to see

the issue on that much more personal, individual basis. It is partly why we are doing the plan that we are.

We have literally only just finished investing in the last superfast network. We are going ahead of cycle to build a fully future-proofed full-fibre infrastructure that, hopefully, will allow the country to do pretty much anything and should unlock £59 billion-worth of productivity. It has lots of green benefits, as you say, because it will reduce commuting and enable more people to come back into the workforce, such as carers or others who might not be able to travel to places of work.

We are accelerating all that, partly as a result of understanding that there is this often very personalised and community-based individual need. It is less about individual companies coming to us; it is because we can see the trends in where things are going and we know that we need a network that is designed for a lot of the future innovations that you are talking about.

Q73 Lord Hall of Birkenhead: I can see conditional access in your world, the broadband world, for radio. Is there anywhere that has tried conditional access in the analogue or DAB/DTT world that you can point to?

Shuja Khan: If I may, I will come back on my question. I have not come across it but I want to make sure that I have had a look and had an extensive conversation internally before I come back on it. Shall I answer your question, Chair?

The Chair: By all means, if you have something that you want to say in response to the question I asked.

Shuja Khan: I shall take the DDT bit, given the conversations we have with our customers. The first thing to say about our public sector broadcast customers is that they take their universal service obligation very seriously. Reaching every part of the country is very important but we are switching off some elements of the service. That is happening on the long-wave and medium-wave side of things; we are switching those off at times. We are finding ways of saving costs, which I think was a question that was asked earlier, and that is absolutely happening.

On innovation, with my DTT hat on, we have a business that does video-on-demand, IP delivery and so on, and a lot of that innovation is happening in the cloud. Those conversations are ongoing with a whole bunch of customers who we talk to that probably sit outside the DTT side of things. That innovation is going on across public sector broadcasters and the whole broadcasting industry, and we are very involved in it.

The Chair: Thank you for your evidence today. You have promised to follow up in writing some of the questions that we have asked, and we will be very grateful to receive your supplementary written evidence. On that note, I will call us to order so that we can get ready for the next session.