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# EDITED TRANSCRIPT

BT.A.L - BT Group PLC Openreach Business Briefing

EVENT DATE/TIME: DECEMBER 04, 2019 / 3:00PM GMT



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## PRESENTATION

**Clive Selley** - *BT Group plc - CEO of Openreach*

All right. Good afternoon, everybody, and welcome to Openreach, the U.K.'s digital infrastructure provider. This is our London HQ here at Judd Street, and I also welcome those of you who are joining us from around the world, either by phone or via the web. Everyone, welcome.

Today, what we're going to do is offer you insights into the current state of our business. And also, our vision for the future development of this Openreach. To do that, I am joined by my Openreach leadership team who are arrayed across the front here. Some of these guys will present, some will be running demonstrations for those of you who are here today, and some will help with the Q&A, which will come at the end of the session.



So we're going to cover -- moving to Slide 4, for those of you on the phone there, 4 topics: #1, our market context and strategy; #2, our evolving product portfolio; #3, customer service and cost base modernization; and then finally, our financial position and expectations. And we're going to follow the formal presentation with a Q&A session. And later, for the people in the room today, demonstrate our network technologies, a bunch of innovative tools and techniques for our FTTP network deployment, and some of the initiatives that underpin both our service improvement program and our cost base transformation program.

So let's start with setting the context by looking back over the Openreach journey of recent years, and by painting our future vision for Openreach. So moving to Slide 5, please. So I want to begin by recapping on the creation of Openreach Limited. We are a heavily regulated business, and Ofcom's digital communications review, which completed back in spring 2017, fundamentally changed the status of Openreach, moving us from functional separation to full legal separation within the BT group. So while still a 100% BT-owned business, Openreach is, since that date, been governed separately as a distinct legal entity, Openreach Limited, with an independent Board, led by an independent Chairman, a majority independent nonexecutive directors, with no prior links to BT.

We have a very clear obligation to treat all customers equally in the exercise of all parts of our business. We have undertaken the U.K.'s largest 2p process, moving over 31,000 people into Openreach Limited. And we've also rebranded our entire fleet of over 25,000 vans, our corporate workwear, our buildings, our IT systems, all now have distinct Openreach markings with all of the BT logos removed. Together, these fundamental changes have given us a huge opportunity, which I think we have seized. We've been able to forge much deeper relationships with our 600 communication provider customers, and our role is far clearer to end customers, be they in their residences or at their business premises. Our people have also fully embraced the change, with very big improvements in our employee engagement scores.

Let's move to regulation on Slide 6. As we built the new Openreach, we've worked hard to improve our relationship with our regulator, Ofcom and also with the government. Over the past 3 years, we progressed through a number of market reviews and regulatory charge controls. In fact, over that period, we've seen significant price reductions and significant increases in the target levels for service imposed on us on copper, on the VDSL platform and also on our business ethernet and optical portfolio.

Now having been glided down towards an allowable rate, an allowable return on capital employed, we don't anticipate any major price reductions will be imposed by our regulator in the future. We have now raised service levels materially across all of our product categories. And while we will continue to improve service, we will do that by codesigning service up lift initiatives with our retail service providers.

And building on this and to provide more stability and predictability in our marketplace, Ofcom have signaled their intention to move to a 5-year regulatory cycle, embracing all markets and all product types. And the first round of this new regulation is being consulted on shortly, with the new regulations due to start in April 2021.

So the regulatory and policy environment is now shifting very materially to encourage greater investment in FTTP, right across the U.K., both by us and by other players, and allows us the opportunity to earn a fair return. We are looking to our regulator to detail a set of what we term, fiber enablers, and I'm confident that Ofcom's consultation document, which is due imminently, will continue that trend in a way that is positive for investment by offering some of those fiber enablers. At Openreach, we plan to seize that opportunity.

Moving on to Slide 7, let's touch on our service journey. So in line with Ofcom's rising quality of service targets, we've been on a 4-year journey to raise service levels for customers right across all Openreach products and services. In recognition of the significant progress made, Ofcom has signaled that it's intent now is to hold regulated service levels flat at 2021 exit rates rather than to continue to ratchet them ever upwards. But regulation aside, continued service improvement remains an imperative for us at Openreach. Service failures always result in higher costs for us, and we're determined to eliminate them.

Today, though, we provide service faster than ever before. We fix faults earlier than ever before. And most importantly, we've invested significant sums in proactive maintenance of our copper network to reduce the overall number of faults experienced by customers.

So this year alone, network faults are down 6% on last year. This year, Ethernet delivery volumes are 18% higher than last year. And of course, the next big game changer for service is the move to FTTP. We found now that fault levels for our FTTP customers are about half those for copper network customers.

So with a large-scale FTTP network, the open reach of the future will deliver higher levels of service at significantly lower costs, and Olly will tell you more about this area later.

So moving on to Slide 8. I want to talk about the network. And as you've heard before, our network build strategy has shifted to FTTP, and we are confident we will continue to build up pace and scale across the U.K. over the coming years. Our confidence actually stems from having done this before with superfast broadband. Over 96% of the country can now access superfast broadband after we at Openreach, built a very large VDSL network over the last decade. And having built the network, our key objective in recent times has been to monetize that VDSL platform by encouraging large numbers of customers onto superfast broadband. And hence, the big volume deal of last year, which we created with the CPs to give them the opportunity to move large numbers of customers onto VDSL service in exchange for lower prices. Since then, we've experienced strong growth in customer numbers on VDSL with well over 13 million customers now live and net adds running at more than 2 million per annum. The volume deal is delivering just as we intended and generating decent fair returns for our investors. And in fact, the strong take-up of the VDSL platform underpins our future network investment on FTTP, as we gain confidence in customer demand for higher bandwidth products.

Let's go to Slide 9, please. We are building on our VDSL success then. We switched our network build strategy to FTTP in very early 2018. And today, we have already built the largest FTTP network in the U.K., and I believe we are building at the fastest rate at the lowest cost and at the highest quality of any of the builders here in the U.K., and we're now selling FTTP services increasingly quickly. All this, pretty much from a standing start in March last year.

Our FTTP network currently covers over 2 million premises. And as you're well aware, we will double it to 4 million premises by March 2021. Our ambition is to reach 15 million premises by the mid-2020s, subject to the right conditions and ultimately, almost all of the U.K. It's a big ambition, but we believe we can do it. We want everyone across the U.K. to benefit from world-class connectivity, no matter where they live, work or travel. So we are honing our fiber network build skills across 3 core programs. So firstly, fiber cities, where we're building in the most populous areas of the U.K. Secondly, new build homes, where we're working with most of the major house builders in the U.K. to deliver fiber for new house dwellers. And then the rural program, often in partnership with local government and taking public subsidy to mitigate high build costs.

And we're also happy to support other infrastructure providers through access to our ducts and poles and through our new Dark Fibre X product. At the start of that journey, we've accelerated our deployment program, tripling our build rate last year compared to the prior year, and doubling it again this year. We currently pass a premise every 26 seconds with FTTP. So that's about 350 premises by the time we pitched to you today, and we'll continue to accelerate. Ultimately, I believe we can pass around 3 million premises per year.

And speaking frankly, being late to the FTTP party amongst many European, American and Asian peers, actually gives us major cost and quality advantages. Because we've scoured the world for best practice, best practice in architecture, best practice in management of the supply chain and best practice in those very important technology component choices. We have consulted with operators right across the globe. We've secured our supply chain for people. We've been hiring into Openreach and teaching the new hires at our new training centers right across the U.K., while also signing deals with subcontractors for additional skilled labor. And of course, we've been securing and diversifying our supply chain for FTTP equipment of all kinds.

As we build, we're also refining our provisioning techniques for when customers order FTTP, readying ourselves for the large-scale transition of customers to the new network. FTTP adoption by our CP partners is in the early stages. But we now have about 450,000 end customers enjoying reliable, faster, low latency FTTP services, with 5,000 to 6,000 orders coming in each week. We want to accelerate this process so we are pricing the platform increasingly competitively, encouraging CPs to adopt FTTP at pace and scale similar to the VDSL platform, and Katie will tell you more about this later.

In summary, we are reinventing Openreach as a full fiber business. It is a historic shift, but we have the people and the technology to do it. And the customer base to leverage it at scale for the benefit of end customers across the U.K.

Moving to Slide 10. I wanted to leave you with the key messages. I'm actually very proud of the journey Openreach has taken in recent years. I'm extremely excited about the future. Before members of the team tell you more about some of the areas I've mentioned, I want to leave you with a simple set of commitments you'll hear us reiterating across the afternoon: #1, we will continue to raise underlying service levels, and in so doing, eliminate 5-year costs; we will maximize the value of the VDSL platform, we're going to fill it up; we will build FTTP infrastructure faster, cheaper and to a higher quality standard than anyone else; fourthly, we will work with communication provider customers to drive rapid take-up of FTTP; and then finally, we will work tirelessly to secure the fiber enablers from our regulator and our government.

So thank you for joining today. The members of the team presenting have some important things to share, more detail starting with Richard, who will discuss market context and strategy. So I'll ask Richard to come up, please.

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

Good afternoon. I'm Richard Allwood. I am the MD of Strategy at Openreach, where I've been for the last 3 years. Before that, I worked for BT Group, where I played a key role in the acquisition of EE. And then I led the integration of EE into BT. I'm going to talk to you about 3 things this afternoon. Our market context and how it's changing. I'm going to talk to you about our preferred investment approach for FTTP. And I'm going to talk to you about the progress that we're making in securing a set of commercial regulatory and government enablers that will allow us to pursue that approach at real pace. So I'm going to start by talking about customers on Page 12.

So I mean, over the last decade, broadband has become central to how we all live our lives at home and at work. And as that happened, we've seen strong growth in usage and growing take-up of higher speed services. What customers spend on broadband has broadly kept pace with inflation, rising from around GBP 28 to GBP 34 over the last decade. When you step back from that, that is a great result for customers. Over 20x the volume, 15x the speed and rising coverage in return for increases in spend that are broadly consistent with the overall level of inflation in the economy.

Now when we look to the future, we expect broadband to become ever more important to people, as businesses become more digital and as the number of connected devices grows exponentially. And as a result, we expect that customers will pay more for higher quality broadband in the future as they have in the past. But higher quality is not just about speed anymore. As customers are becoming more dependent on broadband, so they're paying more attention to a much broader set of factors, reliability, consistency, upstream as well as downstream speed, latency, provision time, how long it takes us to fix, and all of those factors are improved fundamentally by shifting to 100% fiber network. So we see the shift to FTTP as being about providing consumers and businesses with higher quality broadband, not just high speeds. And as we make that shift, we expect that customers will choose to pay a modest premium for higher quality broadband services enabled by FTTP, and we expect to benefit from this at a wholesale level.

Additionally, we expect this trail by Clive that our pricing environment will improve over time as our regulator seeks to encourage infrastructure investment by us and by others.

Moving to Page 13. I'd like to touch on the public policy environment. Not surprisingly, political parties have different views on the best model for delivering gigabit capable broadband across the U.K. Most see the private sector as central to driving this investment, the labor party has advocated nationalization. All parties are agreed on the importance of broadband to the U.K., and we welcome that. And all parties recognize that the state has an important role to play in funding fiber rollout to parts of U.K. that the private sector won't reach, and we welcome that as well. In fact, we're very proud of our track record of working with government to deliver superfast broadband to around 96% of the U.K. today. So we will look to build a strong relationship with whichever government wins power. And we will always shape our investment approach to reflect the best interests of the shareholders who provide our capital.

Next, on Page 14, I'd like to talk about the competitive context. Now over the last few years, we have seen the competitive threat grow in fixed access markets. But the key point is that we are responding to that threat effectively through our ramp of FTTP build and through our pricing of FTTC and Ethernet services.

So let me give you a bit of color on the competitors that we face. Virgin Media, the U.K.'s cable operator is our largest competitor. It is expanding its network through Project Lightning and has added around 2 million premises over the last 4.5 years. Virgin Media is also upgrading its cable



network to DOCSIS 3.1, which will enable faster speeds and is rumored to be considering wholesale. Although Virgin Media's cable network does have a speed advantage over the -- over our FTTC network, the availability of competitively priced FTTC have helped to stem and even reverse losses in existing version footprint areas.

More recently, we've seen several new and smaller players enter the infrastructure market. Some of these are vertically integrated, so they're retailing their services directly to end customers. Others appear to be pursuing a wholesale approach in the outset. All combined regulated services from us to help them build cost effectively, either passive infrastructure access services or active Ethernet services. Collectively, we've seen lots of ambition, and we've seen significant funding raised.

Translating that into network built has taken longer, and we are pleased that our own FTTP build rate is already materially higher than any of our competitors. And we've achieved that without compromising on quality or on our cost points.

So we're not complacent about the threat from new entrants, and we recognize that ramping build does take time, but we think that FTTC is a good defense today against cable, and we're encouraged by the start that we've made in ramping our own FTTP build versus our competitors and the cost points that we're achieving.

I'd like to move on now and talk about our preferred investment approach to FTTP. And this reflects the demand for higher quality broadband that we anticipate. It addresses the public policy objective and it allows us to respond to the competitive threat. Now as we said before, the regulatory environment is a critical enabler for FTTP investment, and I'll talk more about that in a moment. But assuming the enablers fall into place, you can expect us to build at scale and at pace throughout the 2020s. You can expect us to build big. In fact, you've seen us repeatedly scale up our ambition as we grow more confident about the conditions. From GBP 2 million to GBP 3 million to GBP 4 million by the end of March '21, and we have raised our ambition from GBP 10 million to GBP 15 million by the mid 2020s. You can expect us to build fast, right? We are ramping with BTs backing in capital as fast as we can right now from pretty much a standing start 18 months ago to around 22,000 a week. I've been here for 3 years, and I've been blown away by how fast we have ramped up so far, and I'm excited about what's to come.

You can also expect us to keep building across the U.K. So the towns and cities are important, but we see large parts of the U.K. that are commercially viable for FTTP build by Openreach with the right regulatory framework. We're trialing build in fact, in about 13 market towns and villages across the U.K. to test operational feasibility and to test our cost points.

You should also expect us to price to compete and drive take up. This is really important. There's no point building a network and leaving empty, and there's no point in us running 2 networks in parallel, right? So we need to price the FTTP network to get rapid and high adoption. And what do we get in return? And what does this investment unlock? Well, we will get an FTTP platform that will transform the customer experience, making future-proof services available to millions of homes and businesses across the U.K. It will also allow us to completely reinvent our operating model and cost base, and that's a very important part of the case we're investing. It will give us a hugely competitive platform that will enable our customers to take share. And of course, we'll secure fair returns for our investors, commensurate with the risks that we're taking with their capital. And key to securing those fair returns is the regulatory environment. So let me talk about that.

On Page 16, we've laid out the enablers that we've been discussing with our regulator, Ofcom and government since the last wholesale local access market review in 2018. Now this is not us filibustering or delaying investment. It's about making sure that we and other builders can accelerate into the 2020s and be confident that our investors can expect a fair return. So don't see this as a shopping list of things, all of which must be in place. [CVs] is the factors that shape the investment environment and that should combine to give us enough confidence to invest at scale. Let me highlight a couple that are important and where I think we're making progress. First, indexation of fixed access pricing or to use Ofcom language, inflation-adjusted prices. This is crucial to underpin investment by Openreach and others.

If we accelerate our rate of FTTP build we need to be confident that the regulatory pricing framework will adjust to reflect that, allowing us to earn a fair return on capital that we've already invested. Ofcom signaled its intent in its last fiber investment consultation back in Q1, indicating that where it saw escape to competition, raising prices to encourage investment would be justified; #2, charging a premium for FTTP over FTTC. Again, Ofcom signals its intent back in Q1, suggesting that a modest premium would be justified for FTTP over equivalent speeds on FTTC. This is important,

and it recognizes the higher quality of broadband services that FTTP enabled -- enables and that I talked about earlier. Ofcom also proposes pricing flexibility for speeds above the regulated anchor product, just as we have today on FTTC.

On switchover, Ofcom has already said, it is supported in principle. We proposed 75% ultrafast exchange coverage as an appropriate trigger for kickstarting migration. We've consulted with the industry on that, and we think it's reasonable. We expect Ofcom to provide an update when it issues its next consultation. And in the meantime, we are continuing to prepare for a trial in Salisbury, which industry and Ofcom has supported.

On the fair bet, Ofcom has been consistent in its agreement with the principle of a fair bet. They've been clear that they would apply the fair bet principle to FTTP. And they've said they wouldn't expect to intervene for these 2 regulatory cycles, 10 years. We'd like more detail from Ofcom on the mechanic. So we will look very closely at Ofcom's next consultation, but we're increasingly confident that they will land a framework that does encourage FTTP investment by us and others.

So in summing up, let me emphasize 3 points. First, we believe the environment is shifting in a way that will reward large-scale investment in FTTP over the 2020s. Second, we're gearing up to be ready for that. We're pleased with the start we've made and we think we're very well placed to drive and benefit from FTTP deployment. Third, the regulatory and public policy framework is a critical factor, but we're increasingly confident that Ofcom and government will get this right. So our relationships with communication providers and the deals we can reach with them are keys to the success of our investment strategy.

So I'm going to hand you over now to Katie, who's going to talk more about this aspect of our business.

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**Katie Milligan** - *Openreach Limited - MD for Customer, Commercial and Propositions*

Thanks very much, Richard. And good afternoon. Just by way of introduction for myself, I'm Katie Milligan. I'm the Managing Director of our customer commercial and proposition unit in Openreach. And what that means is I'm responsible for our trading, our portfolio, our products and very importantly, our relationships with our communication providers.

So I've been in this role now for about 3 years, I've been in Openreach for about 10 years now so I'm almost a veteran in Openreach. And prior to that, I was in the wider BT Group, where I was in the consumer and the business space.

If we just move on to Slide 19. As a quick reminder, Openreach shares over 600 communication providers right across the U.K., delivering a range of products and portfolio options that allow our CPs to serve all customer segments. Be that residential, businesses or infrastructure build. In my unit, there are 3 key priorities that I'll touch on [freight] my slot. Number one, and very importantly, around deepening our relationships with our customers, particularly in the new era of a very independent Openreach. It's been fundamental that we are driving the relationships with our customers and strengthening it right throughout the whole of Openreach. And making sure that our priorities are right -- aligned right throughout our business and theirs. Second of all, as the market changes, our customers, we're also transforming our portfolio to keep up with the changing requirements. And finally, it's about delivering compelling propositions that are codesigned with our customers. So ultimately, we can fill the network and ensure that we have salable demand. And that's important because ultimately, we want the confidence to invest in our future network and particularly in FTTP.

So fundamentally, my role in the Openreach strategy is really clear. Once my colleagues build the fantastic networks, it's my job to fill the network, and at pace and without question at the right price point for that.

So if we move on Slide 20, please. So for our consumers and SMEs, I think it's fair to say that we're on a digital transformation, both in terms of voice and in broadband. You'll be aware that we've announced previously that were due to close the PSTN network in 2025. Now of course, that may sound like a long time away. But when you think about it, we have 15 million lines to transfer over to the new platform, there's a bit to do here. Well, of course, we started on this journey, and we're working really closely with the industry and key bodies to ensure that the transformation and the transition work smoothly.



Now we're due to launch our new product that enables this Single Order GEA or SOGEA for short. We like funky names in Openreach, and this is a key enabler for all IP. And ultimately, this product will allow us to move to fully digital exchanges for voice will be carried over IP. We're confident in the trials we've seen today on this product. We've been testing it with consumers and with smaller businesses, and we'll be looking to launch this product into the new calendar year.

And it's worth to note, if you look in the KPIs, you might have seen it in the last set of KPIs, where you'll notice SOGEA now being shown. So you will see the movement of WLR on SOGEA, and you will also see some of our MPF customers use SOGEA to a lesser or greater extent, so you can expect some MPF lines moving into the SOGEA line as well. But it's not just about launching products. We are working with industry to really understand the experience of migrating fill exchanges across onto the new platforms.

As I said, ultimately, our vision is to have fully digital exchanges. And to that end, we've announced 2 key trials that we want to run with industry, 1 in Mildenhall in Suffolk. And secondly, Salisbury. And Salisbury will be our first fully FTTP enabled exchange, and both trials have had great support from both Ofcom and with customers. And against these 2 locations and trials, we'll shortly be announcing that we'll be stopping the selling of copper-based services in these exchanges. That's a real change for us and for our customers. But given the support that we've had, it's showing that we've got real support and commitment to embracing that new digital world. And we'll be stopping -- we'll be announcing those stop sales in the next week or so, so you can expect that to come out.

And as I look to broadband, it's really simple for us. Quite simply, we want to make sure our customers are on the best broadband platform that's available to them. Build it and they will come, it might have worked for Kevin Costner in Field of Dreams, but it doesn't work for Openreach, and it certainly doesn't work for me. And that was part of the reason why we codeveloped the volume discount scheme that Clive has talked about earlier. We wanted to make sure that once we built the VDSL network, that we had long-term enduring commitment to CPs to mass migrate their customers and at pace onto the superfast and indeed, the early ultrafast platforms, of course, in return for punchy pricing. I'm actually really proud of that offer, and it's working very well. You can see the take-up that we've had and moving customers on to our superfast platform as our penetration increases. And now we're about to go into the next phase of that offer, where we'll see our CP start to move on to the ultrafast phase of that offer.

And as we look towards FTTP, as Clive had mentioned, we're looking into the next program phase. So it's all about our FTTP cities program. And commercially, we have the exact same thinking. We get huge ambitions. And unlike FTTC, we're not going to wait for about 7 or 8 years and wait for the market fill for that platform. We're going to move ahead quickly, and we will be making that market with CPs.

And in the city build itself, we're in the very early stages of learning with our customers, both in terms of what our costs are in terms of getting customers onto the network, the experience, but also what the right long-term commercial arrangements will be. And if I look towards the FTTP pricing journey, we've been very clear in terms of our strategy here. First, we wanted to establish very clear, published pricing. We did that in June. That was to get people an understanding of where we were going to be for backstop on pricing, that allows CPs to try it out. Then we started on a journey of looking at some other shorter-term offers that is allowing us to trial different commercial constructs in terms of what could be coming in longer-term deals for FTTP. You might have seen some of them. We announced a couple of weeks ago, the local marketing offer. And in fact, Vodafone announced that they will be working with us, all now in 3 locations. And only just yesterday, we announced the FTTP-only deal, which is where CPs commit to selling only FTTP, they'll get punchy discounts on the back of that.

And finally, in parallel, as you could imagine, we're in deep discussions with our customers arrange what longer-term pricing construct looks like. We want to ensure that we incentivize our customers to get their customers on our platforms as quickly as possible, and then we move them up the bandwidth scheme.

Ultimately, I believe that we're building a phenomenal product in FTTP. And given the pace that we're building out quicker than anyone else, there's a great opportunity for us to drive take up, and we're working on the commercial mechanism that absolutely underpins that.

If I move on to Slide 21. In terms of Ethernet, and the business connectivity, can be separated out for us into 2 key areas. First of all, backhaul and the secondary on access. I believe there's a consistent theme across both of these. It's ultimately about the ever-increasing demand for more bandwidth. On backhaul, we've been working with our communication providers to help them and upgrade and uplift their own networks, which



allows them to meet the growing needs for bandwidth and indeed, for 5G. This has been enabled by our -- expanding our own product portfolio and offering increasingly attractive pricing deals that allow us to have longer-term commitments with our communication providers.

And on the business access market, as you've heard from Clive earlier, this year has been good for us. We have seen not just record demand in that market, but we've also seen record completions in our delivery. And if I look at the new customer growth in this area. It's coming from a couple of key customer programs. We can point it towards the health and social care network uplift. And also, we've seen increased take up through the government's own Gigabit Voucher Scheme, allowing smaller businesses to access gigabits. And also, it's about this market for us, where we're moving customers up the bandwidth ladder. We've been looking at how we enable this, we have been reducing the pricing gap between the bandwidth ladders, which have allowed customers to move up. And for the first time ever this year, we will see there are net adds on the 1-gig product, we'll be outstripping that of 100 meg. So we can see our new market moving towards the higher capacity circuits. And it's also about future proofing for us. We've been making sure that we have -- we've just got about under half of our customer base today, who can now upgrade to better bandwidth on Ethernet without the need for an engineer or for very minimum downtime, and that's very important as we look at how we can enable that growth moving forward.

Now as Clive talked about, we don't see any major regulatory reductions expected. So instead, what we're doing is working with our communication providers on those right propositions, in particular segments where it works for the market.

And of course, in the future, we know that FTTP will be a platform that, over time, will challenge traditional products such as Ethernet. So we have been in a consultation with industry and with our customers, and trying to get ahead of the game and understanding what that product needs to look like over the future. And you'll hear us announce some of the responses that we've had in the coming weeks and months. And you can also expect that we'll be running trials of the new FTTP business products early into the new year in particular locations.

We move on to infrastructure. Thank you. Now in terms of our infrastructure. As Openreach, we are absolutely committed to delivering scalable products that allow others to use our assets to enable infrastructure concession. On our ducts and poles, this year has been a fundamental year for us around bidding in with CPs. As you might know, we launched the revised products this year, that has been around since 2011, but we launched a number of improvements this year. We launched even more IT in October, and it's been around making sure that this product is scalable and increased usability for our customers. We're starting to see those customer experience benefits and through the impairment of CPs to self-serve and to self build, they're starting to feel those benefits also. And as part of that product, we've also started publishing our key performance indicators on builds. Of course, that's not the end. We'll continue to improve this product because we want to make sure it's right for customers who use it, and we'll continue to finesse it.

We've also been polishing this year, our Interexchange Dark Fibre product. You'll remember that this was imposed by Ofcom for a noncompetitive [routes], and this enabled competition by driving down the cost to build. And as a result, increase the fiber coverage right across the U.K. We've had a successful trial of that product, and we recently announced that we will launch this product just prior to Christmas on the 20th of December.

Now just moving on to Slide 23 in conclusion. Openreach has a unique position in the market, which we are able to offer nationwide access to over 600 of our communication providers. And that delivers real choice to end customers as a result of that network. But for me, the strategy is really clear. We will make sure that we get the customers on the right platform. And then we will incentivize them to move up on to the best experience that's possible and improve the ARPU over time.

If I look at Openreach's future, I'm hugely excited by the fact that we've got the fastest-growing FTTP platform, and that allows us to be the scale provider in the market. That means for me and my team, we've got phenomenal opportunity to work with our CPs to sell this, and it gives real skill and choice across the market.

So thank you. Hopefully, that gives you a bit of a flavor of the priorities in our sales and product space, and I look forward to discussing that a bit more with you in the Q&A. But in the meantime, I'll pass over to my colleague, Olly, who will talk you through service.

## Olly Kunc

Thank you, Katie. Right. Good afternoon, everybody. I'm Olly Kunc, I'm the Managing Director of Service Delivery. I've been in Openreach for 2.5 years, and unlike my colleagues, I came from the outside, I've been in consumer businesses from British Gas, Barclays, British Airways, and most recently, the AA as well. I joined Openreach to be part of this quite exciting journey into the future, into FTTP.

So let me just explain a bit about what service delivery is and why it's important for this strategy. So service delivery is the arm of Openreach that essentially delivers all the provision and the repair of services across all our copper and FTTP fiber platforms. We have about 20,000 people doing that, about 16,500 of which are engineers. And we do it across about 190,000 engineering visits every single week. We do that across all technologies, copper and fiber, and across all products from plain [telephony] all the way up to ultrafast broadband.

These services are delivered across the entire of the U.K., from the island of Scotland all the way through to Northern Ireland, to the inner city, London, Birmingham, Leeds areas. And this is quite a unique challenge, especially on a network, which is primarily being built over decades of time and which is pretty fundamentally affected by weather, by the rain, by lightning and by the wind.

To do this, we have essentially run 3 different assets today. With the first asset is our copper asset. Over the past 3 years since the DCR was agreed, WA was agreed with Ofcom, we've been focusing pretty heavily on improving the service on our copper asset. And we've done this through recruitment, through training, through improved workflow and allocation. And today, our service is better never before. You can see on the top chart, the black line represents our on-time repair delivery on the 24-hour basis. It has continued to improve over those 3 years, and it continues to improve today. And that's been helped by investing in the copper network, where we see high faulting age of the network. We put more money in, we replace parts of it. And therefore, our fault -- our network fault rate has been dropping during the same period, which is the green line.

On the fiber platform, the second of our assets, we're pretty excited. It's pretty early days. I'll come on to that in a minute. But the early signs are really encouraging. As a platform, we're already seeing fault -- network fault rates at below 50% of what we see on the copper platform, that implies a much more efficient operational platform into the future as we move people across. And what's even more exciting for me is that this thing is not affected as much by the weather. This is the last 9 months. As you know, it's been pretty bad weather for past 6 of those, our copper network faults have been rising and pretty volatile. Our fiber platform have not only not been volatile, but it's actually been dropping during that period as we've been engineering failure out of the system.

But the third and probably most important asset I think we have is our people. As I said, we have 20,000 people in service delivery. In the whole of Openreach, we have 30,000, 31,000, 32,000 people. And we have been focusing relentlessly on those individuals over the past 3 years to increase engagement. You can see that our employee engagement within the field organization is up to 75. That is in the top quartile of all field organizations across the world. And for me, this is a pretty good (inaudible). Whatever we do in the future as we transform, as we change, as we improve service, if we don't have our people engaged and delivering that change every single day out there, up poles, down holes, we are nowhere. So the people asset for me is what's going to be key to this transition over the next 10 years.

It's this people asset, I believe we're going to have to deploy and use to allow us to take on these significant transformation efforts. In service delivery, we have 2 transformation efforts. The first one is the mass activity of provision onto the new fiber platform. And the second is the opportunity to transform both service and efficiency on the old copper platform.

So the transition to FTTP. And as I said, we're at the beginning of this, as our colleagues -- it's Kevin down here, has been building and (inaudible) building at pace, you saw the pace of their building earlier. As Katie has been selling this platform, we started provisioning onto it. We're currently at about 450,000 lines in the U.K. Certainly, as we've practiced 450,000 times. But actually, a huge majority of that is on network associated with Bill some time ago, the BDUK work we did previously.

But today, we are delivering an increasing number of that. So the top chart there shows you the weekly provisions we're doing is growing, it's well above 5,000 now, it's starting to get towards the 6,000 number and an increasing proportion of that is in the new fiber cities network.

As new CPs come onstream, as Katie just deals with the new CPs, that will also start to increase this faster. So really, this is a time that we should be learning and developing our techniques on provision. So that when we get to much higher numbers of provision. And fundamentally, if we get to a greater amount of switch over into the fiber platform, we are well drilled in both cost and service.

So to do that, we are really focusing on 5 areas. The first one is our engineers, and we train them. They're growing in experience, the more these guys do, the better they get, the quicker they get, the more consistent they get. But we're also developing our systems and our processes around this. Making sure that everything that was brilliant from the copper world, we replicate and everything that was not brilliant, any failure from the past, we get rid of. We're innovating heavily. We're working with other countries. We're working with our suppliers, we're working with people, we're working with our engineers to come up with new ways of working, to make jobs simpler, quicker and with a high likelihood of success.

We work with our commercial teams to encourage local selling as when we get to high concentration of sales in one area, we go up the experience curve faster. Our travel times are quicker, everything is better about what we do. And we're using these deep relationships with CPs that we've developed over decades of being a wholesaler to deliver seamless end-to-end customer experiences between us and them. And with multiple CPs, you've heard 600 CPs all with different system stacks, all with different ways of working. This is not a trivial task.

So the results are pretty good. In the middle is our indexed unit cost performance on provision just this year alone. The bottom is our on-time delivery, our service performance. But we believe there is still a long way to go, and we are going to continue to learn into the future.

So this area of transformation represents the future world of Openreach and the future world of service delivery. And as we're going to continue to grow, you're going to keep seeing success on both the cost performance and the service performance. But as that platform grows, and as we move through this transition, we're also going to continue to run a copper platform simultaneously. And that will go on for many years. And today, well over GBP 1.2 billion of our cost base and the majority of our people are engaged in that copper platform. It's this cost base that we believe represents the second transformation opportunity.

So the workflow that drives that cost base is really 2 areas. The first 1 is provision. When we do provision, we make revenue. The second is faults and when and all our faults are represented within the rental annuity that we charge to our CPs. We have been investing heavily, as I said earlier, to reduce the incoming fault rate by upgrading high faulting areas, and we'll continue to do that, actually, increasingly through replacing copper with fiber. But today, our fault rate is going down 6% year-on-year, and that will continue to deliver positive benefits for both customers and our cost base.

However, in addition to incoming faults and provision, we also have quite a large amount of rework associated with legacy processes, legacy systems and legacy ways of working. There are things I missed, on-time delivery, missed appointments, early life failures on provision, a repeat report on a fault. And it's those customer journeys that really are the highest cost and also the worst experiences. Those things end up in clients' inbox, and we have to deal with them as complaints, right?

So we believe that this is the area that actually, we have a huge opportunity. If we can get after this. We will reduce both our cost base, releasing efficiency and deliver an amazing customer service. And this has become our custom service mantra. We call it first time, every time and on time. And it's also the principle behind our most ambitious modernization program we've ever launched.

So this program is really a symbiosis of 2 things. And all the insights we get is from our people and our data. From the people side, we need 2 things. Firstly, the ideas to which we apply our changes. Now we have a pretty unique ability here. We have hundreds of thousands of years of experience. And all that knowledge, all that experience of what we do, how we do it in every part of the U.K., we can bring to bear.

We've recently launched workplace, a social media tool, which allows us to connect directly to thousands of people every single day. Their ideas, their problems or things that get in their way. That's the first time we've been able to do that outside of the traditional team meeting environment. It's driving a high level of engagement and the engagement that we've driven over the past few years is really creating a desire to support and change our business.

But secondly, to deliver a lot of our change. The challenge of communicating and changing the habits of 20,000 people in service delivery of 30,000 people in Openreach is a huge challenge, but it's made much easier when our methods of design, you'll see some of this later, are made with engineers with the user at the heart and when engagement is already high.

The first time, actually, we're then going to combine that experience, which I think is a very unique asset, without all the unique asset, which is our data. We have an enormous amounts of data. We do 190,000 visits a week to our customers. And we've been doing that for decades. The ability to bring those data sources together and to put them in a single place, look at end-to-end customer experience has been beyond us in the past. In the past year, we've been focusing heavily with our IT colleagues to create that environment. For the first time ever, we can look at end-to-end customer journeys rather than point-in-time data such as a single repair or a single provision. And that's enabled us to also look at lifetime costs, lifetime values, and also to apply algorithms to understand what might happen with those customers into the future.

To apply the insight, to apply changes to that insight, to make sure we get value from it, we've also realized a high capital investment in our copper platform where the systems that run it is not sensible, right? We are trying to invest all our capital in our new fiber platform to grow to pace. So what we have done is start to apply new lower capital methodologies into that. We are applying a huge amount of robotic process automation today. Every week, 20,000 customers get touched by one of our robots. We're applying decisioning algorithm and machine learning abilities into the base and we're also designing apps for the first time from the user, rather from the engineering perspective.

And we're partnering with people as well. We are partnering with people across the world to make sure we bring the best to it as a business that we can apply. We recognize that we won't be able to create all these services ourselves. So we're working with designers, with data houses, consultants and IT providers to learn and deliver as fast as possible.

We then use those techniques to reengineer and simplify the processes, primarily that deliver the highest cost and the worst customer failure. Those interventions include predicting and avoiding failure up front with data, equipping our engineers with systems and data to enable them to deliver a better first time. But actually, if something does go wrong, intervening early and intervening fast rather than letting it hang around in our systems, our processes for a long time.

Now the results are pretty early, but they're pretty encouraging. We're starting to be able to predict individual high cost journeys very early. You'll see some of that later as well. We have launched new, simpler [upfront] engineers, which is delivering double-digit benefits and efficiency for the pilot areas. We're also starting to target our copper network investments even better than ever before. So rather than just using faulting information, we can use a whole range of data information about how the network is performing in those areas, what the customers are like, what are the changes they have made as well.

We're even starting to develop algorithms, although it's very early, to predict failure before it even happens, it's pretty cutting-edge in field-based operations such as this. And when we achieve it in the next few months, it will be a breakthrough for both customer experience and for our cost base.

Now what I've talked about, you will hear in lots of analyst presentations and lots of presentations to the investor community. What we'd like to do today, later, we've got 2 demonstrations of actually how we are delivering this, and we're delivering to national scale today. So as of today, there are people in Belfast and Lester, who are applying these algorithms to our customer journeys and intervening well before they go wrong. And we'd like to demonstrate that to you later on.

I think it's worth saying that as we build these new methodologies, we also need to develop our internal capabilities, right? This is stuff that we have not done before. It's stuff that lots of companies have. The Googles, the Facebooks of the world, but actually in companies such as ours, this is pretty new stuff. So we are building our internal capabilities, making sure they are sustainable, but also so that we can apply them to other parts of the business. So if we can test and learn in service delivery, then we can apply them to our build techniques or to our commercial areas to ensure that these things are sustainable and livable and will create huge amounts of value over the long term.

As a business, we benchmarked ourselves internationally against similar field forces, and we do benchmark well on service in the top quartile, but we benchmark pretty poorly on efficiency in the bottom quartile. And we do believe that with this program of change, applying data with our



frontline intelligence, that we can both reinforce our position at top quartile service positions and raise ourselves on bottom quartile to top quartile for efficiency.

So in summary of the next 3 years, this part of the organization, which is a high portion of its cost base and a high portion of its people delivering to so many customers needs to do 3 things. First of all, we need to just continue to keep customer service better every day, making more happy customers and keeping them happy, making sure they stay with our platform. So ultimately, when we build our FTTP, we can sell it to them at that point.

We also need to rapidly develop our understanding of how we provide FTTP and also how we repair FTTP, if it does go wrong in the future. To bring down the cost, to make sure the customer experience is amazing so we can delight our customers on the new platform even more than we are doing on the copper platform. And finally, when you say, transform our copper platform, we need to do it in a low capital-intensive way using modern-day techniques and our intelligence to the front line to reduce failure costs, to massively improve customer service, again, keeping our customers happy, but also make sure we can release efficiencies so we can invest that into the future of Openreach as well. Those 2 things, I think, will make a big difference to the strategy of the organization.

So with that, I'm going to pass you over to Matt, who's going to take you through the financial position and our expectations.

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#### **Matthew Davies**

Thank you, Olly. And good afternoon, everybody. My name is Matt Davies, and I'm the CFO for Openreach. I've been in this role now for 2 years. And before this, I was the CFO for BT Consumer, that I did for 4 years, overseeing major investments in BT Sport and BT Mobile.

Over the next few slides, I'm going to summarize Openreach's historic financial performance. I'll also pull out the key dynamics that drive revenue, OpEx and CapEx, and explain how those dynamics may change in the future. I'll then finish by giving some insights on the FTTP business case, the key value drivers in that case and what's required to give a fair return to our shareholders.

So moving to the first slide showing the dynamics that have been driving revenue. And beginning with base volume and mix. So we've seen physical lines held up reasonably well over the last 3 years, with losses around 30,000 a quarter. Over the same time period, we've seen alt net build of around 1.7 million. We've also seen significant increase in FTTC penetration, which is almost doubled from 31% to 56% of the broadband base. And in the business market, we've seen steady Ethernet growth.

Looking forward, we expect physical line losses to pick up in line with alt net build. However, we also continue to expect to see increasing FTTC penetration to fiscal year '22, supported by the volume deal that was signed by our major CPs last year.

Now turning to ARPUs. The impacts of both regulation and the volume deal have suppressed FTTC ARPU, though this still represents around GBP 6 of incremental rental revenue per customer per month. We've also seen a similar trend on Ethernet ARPUs, which have been brought down by regulated price reductions, colliding us down towards our target WACC. However, as we are now converging on our target WACC, we do not anticipate any further material price reductions going forward. In fact, with the inflation that we're seeking to support our FTTP investment, we would expect to see increase in ARPU on Copper and VDSL, noting that a national 2% increase on these products is worth around GBP 60 million a year, which would compound over time. We'll also see growth longer-term from increased FTTP penetration.

Finally, turning to overall revenue. The effects of the improving product mix have been offset by price reductions, leaving revenue broadly flat. But looking forward, given the future-looking dynamics that I've explained, including the potential for inflating prices, we should see sustained revenue growth.

Moving now to OpEx on the next slide. And the first chart shows the major bookings of OpEx costs in Openreach, which are pay and group recharges. The group recharges are combination of overheads, property costs, IT and business rates. And these costs are largely fixed with the exception of business rates, which we have seen increasing.

Overall, we've seen increase in OpEx costs year-over-year driven by increased pay as well as increased business rates. And the growth in pay has been driven by both inflation as well as increasing the number of FTE. The growth in FTE has been driven by increasing service standards as well as supporting the FTTP build activity. Looking forward, we'll continue to see upward pressure on pay as we ramp FTTP build to a run rate that's consistent with our stated ambition of 15 million by 2025. We will also see increasing business rates for FY '21 with only modest increases thereafter.

Moving on to the next chart, which shows a proportion of OpEx spend by technology and how this will -- this mix will change in the future. This assumes that we build to our FTTP 15 million stated ambition. Then clearly, the rate of this change will be dependent on how quickly we migrate customers. And as outlined by Clive, we see a materially lower fault rate on FTTP compared to copper. So we are keen to migrate as many customers as quickly as possible to give us a lower cost per line, but we'd only do that at the right price.

Now moving to efficiency, where we've seen growth in pay and group recharges, partly offset by efficiency in costs of around 4% a year. And looking forward, we expect to see an increasing contribution from efficiency supported by type of initiative outlined earlier by Olly.

Moving now to CapEx. And again, the first chart breaks down our CapEx into types of spend. And you can see that it's dominated by network and customer provision CapEx. The network CapEx is spent largely on building our FTTP, uplifting FTTC capacity to support increasing penetration, and we've also been investing in G.fast. The customer provision CapEx reflects the costs of bringing customers into service, and it's dominated by copper, VDSL and Ethernet.

The growth in network spend is being driven by FTTP and the build in provision is being driven by increasing FTTC take-up. Looking forward, we'll continue to see investment in customer provision and FTTC capacity to support growth as FTTC penetration continues into fiscal year '22. Longer term, and assuming we built to our stated ambition of 15 million FTTP, we'll see increasing FTTP spend, both on network and provision.

Moving now to the second chart that shows CapEx spend by technology type. This reflects the assumption that we build FTTP to our stated ambition of 15 million homes by 2025. Looking back, the majority of spend has been invested in copper and VDSL. But looking forward, we see copper and VDSL network investment shrinking, and we'll see VDSL provision investments slow beyond fiscal year '22 when CPs will be close to achieving their FTTC volume deal targets.

Finally, the third chart shows efficiency, which is running around 5% year-over-year driven by a combination of transformation activity as well as procurement savings. And this level of efficiency will be sustained into the future.

Moving now to the next slide, which I'm -- where I'm going to talk about the key dynamics and the value drivers in the FTTP business case, starting with build costs. So firstly, the key enablers to support lower costs come from barrier busting, so for example, allowing landlords to give us access to apartment blocks.

We're also in the process of securing long-term, keenly priced deals with our subcontract partners who play a key role in building out the FTTP network. To support efficient provisioning, we need to scale migration that will allow us to drive down costs, for example, by grouping provisions so that we can clear multiple provisions at a time in a street, reducing the number of truck rolls.

In terms of the outlook, we are building at the lower end of the GBP 300 million to GBP 400 range. And as previously outlined, we were increasingly confident that we can build around 50% of U.K. premises within that range. We're testing cost points in the harder-to-reach parts of the U.K., the majority of which we believe we can build commercially subject to securing indexation across the whole of the U.K., as we've previously proposed.

With the scale of our workforce, experience and innovation, we believe we can build sustainably at lower cost points than our competitors. It's too soon to take a view on provision costs as the vast majority of FTTP provisions to date have been outside of fiber cities. Whilst costs to date have been higher than the GBP 150 to GBP 175 range that we've previously announced, we are seeing those costs come down as scale increases, and we hone our techniques.

The next key dynamic in the business case is take-up and ARPU. We continue to have constructive dialogue with our CPs, and we're optimistic we can strike a deal that gives our CPs competitive price points, which will allow them to compete with alt nets as well as enhanced retail profit margins.



However, these price points can only work if we can secure rapid migration. We'll continue to work with our CPs to find a solution that supports rapid take-up through attractive commercial terms.

But in parallel, we'll continue to seek the enablers that would allow us to withdraw copper and charge a small premium that would index over time on FFTP, as outlined in the chart. Securing this enabler reduces some of the risk in the investment by guaranteeing lower operating costs as well as securing additional ARPU. We're hopeful that we'll hear something positive on this from Ofcom in the next consultation.

The final key dynamic in the business case relates to operating efficiencies. These are available as a result of having a much more resilient and stable network. And the benefits of FFTP are already proven where we built, where we're seeing fault rates around 50% of those that we see on the copper and VDSL network. The reduction in these faults will allow us to reduce our OpEx costs significantly as well as reducing the OpEx costs of our CPs.

So finally, to summarize. We do not expect any major regulatory price reductions. And with national indexation, we should see sustained revenue growth. We expect both increased efficiency on the legacy platform as well as lower operating costs on the fiber network, which will help offset the OpEx investment that we'll make in FFTP as well as the investment we're making in high service levels. We'll continue to see a reduction in copper network investment. And in the longer term, we'll see a reduction in copper provision investment, helping to offset CapEx investment in FFTP.

And in terms of the FFTP business case, we're increasingly confident that our investment will give us a fair return or offer a fair return for our shareholders, with build costs at the lower end of expectations, constructive conversations with our CPs on pricing and take-up, operational savings being realized in line with expectations and positive signs that will secure the enablers.

Thank you for listening. And with that, I'm going to hand back to Clive.

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**Clive Selley** - BT Group plc - CEO of Openreach

Okay. Thank you, Matt, and thank you to the team. Right. I hope that the detail that we've taken you through during the presentations has helped you better understand the state of the business and the future outlook for us here at Openreach. The team and I are very excited about the future prospects for this business and really infused by the fact that we are here at a time when we're switching once in 100 years, the switch from copper to fiber. We're determined to make that transition fast, economically and successfully.

Right. We're going to open up now questions in the room and on the webcast from around the world. We'll attempt to cover as many questions as possible within the time limit. One question only per person, please, and we'll do our best to answer succinctly. We're going to work from one side of the room to the other. We'll take a pause in the middle and at the end to go to the webcast, and we're going to start on the right. So if you'll offer your question once we've taken our seats, please.

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## QUESTIONS AND ANSWERS

**David Antony Wright** - BofA Merrill Lynch, Research Division - Head of Developed EMEA European Telecoms Equity Research and Director

It's David Wright from Bank of America. And it's a very, very much appreciated presentation and some color you've given. I'm just curious, reading in the press about some alternative compensation structures for the senior management team of BT, I was just wondering, could you give us any kind of detail on what your key KPIs are for your compensation? I don't know what -- I'm guessing whether it might be speed of build, whether it might be fault levels, things like that. Could you just give us a little bit of color? That would be very interesting.



**Clive Selley** - *BT Group plc - CEO of Openreach*

Yes, certainly. So compensation for this team, the executive team of Openreach is only about the performance of Openreach. It's got nothing to do with the performance of BT. We have a set of categories that we're measured against. The first category is the financial performance of this business. And that is I think 60%, Kevin, of the scorecard?

The second big category is around customer experience, so how are we delivering for our customers. We have service targets that we shoot for that are set by Ofcom in some cases. And in other cases, they're ones that we set. The ones that we set are either additional to or above the Ofcom targets.

And then we have a category that relates to people. So particularly, given that we have a very large field engineering force, it's a lot to do how engaged the workforce are. And there's a fair piece in there I think, Kevin, on safety, right? We have people up poles, down holes in the street, in vehicles using heavy equipment. So there's a safety element to the scorecard. Does that answer your question?

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**David Antony Wright** - *BofA Merrill Lynch, Research Division - Head of Developed EMEA European Telecoms Equity Research and Director*

Just maybe any more granularity on the financial performance. I guess you didn't...

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Yes, certainly.

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**David Antony Wright** - *BofA Merrill Lynch, Research Division - Head of Developed EMEA European Telecoms Equity Research and Director*

Is it metric or...

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Could I ask Kevin Brady, who's the HR Director, to pick up a microphone, please?

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**Kevin Brady** - *Openreach Limited - HR Director*

Yes. So in terms of performance's elements around free cash flow, so in terms of its 20% free cash flow. There's also a measure around CapEx in terms of deployment, and we have a revenue target in there as well. So the 3 key drivers around financial are those around the build. There are also the volumes around build. So we're incentivized to be building at the right price point is the other key driver for us.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Yes. When it comes build, the parameters are very clear. So it's volume built against the target for the year. It's the cost of the build, so the per unit cost of the build. And the per unit cost of the build I focus on, and is reflected in the scorecard, is the cost for urban and suburban Britain. So from the presentations, you would have heard that we think we can get within the GBP 300 to GBP 400 per premise passed for at least 50% of U.K. homes. That's key.

The other one for me is the cost of provisioning on the built network, which is the final fiber drop cable, drilling through the wall and installing the ONT in the home of the customer. So I think we have a set of KPIs that reflect the imperatives for our business. And they relate not at all to the performance of the BT Group, just want to underline that, please.



One at the back there, please. Yes?

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**Jeremy A. Dellis** - *Jefferies LLC, Research Division - MD & Senior Telecommunications Analyst*

It's Jerry Dellis from Jefferies. Question relates to your potential to build out even faster than you're doing at the moment. Just wondered what the sort of limiting capacity really is within the business on a sort of a 12-month view? Does it relate to your ability to actually deliver the build? Or is it more the sort of customer service and provisioning side that's the limiting factor? And if there were to be a situation in which a large ISP, such as BT Retail, were to come along to you and say that they would be the anchor investor for an incremental investment in 1 million suburban homes before March 2021, is that the sort of thing that you would have the capacity to accommodate?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Okay. So let me answer as follows. We have a very clear target for March '21. That target is 4 million homes, and we are on or slightly ahead of target today. So we've gone through the 2 million mark today, which means that we have 2 million to do in a year, 3 months and 3 weeks, right? We are more than capable of doing that.

So I'm confident on the 4 million number. I encourage the team to build a little faster than that, so long as they are doing it at a low-unit build costs. So either CapEx envelope commensurate with the 4 million, if we can reduce our build costs, then we can afford to build a little more.

Today, we -- I do not feel capital constrained. I have the money from the BT Group to build to the 4 million. That arrangement has been ratified at the Openreach Board and, subsequently, the BT Main Board. So we have the deal on that.

We will look very carefully at what comes out in the next Ofcom statement, the consultation document that precedes the regulation that goes in place in March '21. If we're very much encouraged by that, then of course we'll reassess our build ambition.

Today, we are building just as fast as we can, right? So I don't feel constrained financially right now. And I feel very confident that quarter-by-quarter, we are building a bigger build capability. I'm very pleased with how that's gone so far.

Just here, please?

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**James Barford** - *Enders Analysis Ltd - Director of Telecoms*

James Barford from Enders Analysis. I was just wondering on the -- that sort of you talked about a long-term discount of a special offer for -- to encourage rapid take-up. Can you give us any sort of further hints as to what the shape of that might be? Obviously, you can't give the exact figures. And in particular, I noticed the existing special offers that you have of -- they kind of believe the 40 megabit per price the same and -- but fairly aggressive discounts on the faster speeds up to 1 gig. Is that the sort of pattern we should expect to see in the longer term?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Okay. I'm very pleased with the volume deal that we did just over a year ago. In many ways, I see that as great practice for what we now have to do on FTTP, because as Matt said, there is -- or Richard said, there is little point building it if you're not going to sell it and fill it up, right? So Katie crafted the deal a year back. She's the architect of the new deal when it comes about, which she's discussing in detail with service providers. So I'll let her take the question, please.

**Katie Milligan** - *Openreach Limited - MD for Customer, Commercial and Propositions*

Yes. Sure, James. I think if you actually look at some of the offers both in terms of the volume discount scheme and indeed some of the testers in FTTP yesterday and the last couple of weeks, you can start to get some of the hints around what we're thinking. And I think Olly mentioned it in his presentation as well and we've said it, we want people on the platform really quickly. We want to get customers experiencing on the platform and most likely our existing base because it doesn't make sense for us to run 2 platforms. So I can expect that, that's where we'll be incentivizing early starts and equally really trying to focus on where we can get good learning and efficiencies geographically, densely populated spaces to get customers over at pace. And I think the pieces work for us. We do think the bandwidth requirements will grow over time. So it's right getting the customers on the platform at the right time. And then we will grow with customers on our CPs over time as customers move up the bandwidth here. So have a look at the other offers, you can start to see the hints. It may not be the ultimate ones, but it's part of the learning and how we craft the ultimate offer.

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**Nick Delfas** - *Redburn (Europe) Limited, Research Division - Research Analyst*

Nick Delfas from Redburn. Just a follow-up on that for Katie and for Clive. What's the connection fee at the moment? And how do you anticipate that to develop? I mean, obviously, you've got a provisioning cost to offset. So how much of that can you offset within one of the -- with your CPs?

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**Katie Milligan** - *Openreach Limited - MD for Customer, Commercial and Propositions*

Yes. So we've got a published rate at the moment, Nick. So it's GBP 97 or GBP 92. There's different ranges on it. I think like any negotiation, the connection fee will be one of the key areas which reduces the barriers to adopting the platform. We may differ it for different customer groups. So we certainly will be looking to use that within the scheme in order to get a fast start in customers on the platform, particularly customers who have already invested in going to the FTTC platform. So you can see that in our -- both of our structures, actually.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

And what I would say, Nick, is as we drive higher levels of adoption, particularly in given geographic areas, the big learning for us in the short term is going to be in Olly's unit, I would say. What we practice with the big teams in Olly's unit are craft engineering skills. They get better at stuff when they do it a lot of times. So we want to generate dense sales so that we see what engineers with a lot of practice can achieve in terms of unit cost to provision, okay? Really important point for us.

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**Polo Tang** - *UBS Investment Bank, Research Division - MD & Head of Telecom Research*

It's Polo Tang from UBS. Can you maybe just talk about what level of pretax return you think you can get from the rollout of FTTP? You once said that, obviously, 2 variables are penetration and ARPU, but I think earlier, you talked about a modest premium in terms of FTTP ARPU. So is that less than GBP 5? You talked about rapid take-up. So is this 60%, 70% penetration within kind of 10 years? Can you give us maybe some idea in terms of how those 3 variables fit together: pretax returns, take-up and premiums?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

And I'll ask Matt to take this one, a business case question.

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**Matthew Davies**

Yes, look, I think in terms of the sort of returns we would expect, clearly, it depends on the risk that we're taking. So we want a spread on our WACC commensurate with that risk. The level of risk we're taking is clearly dependent on what enablers we get and how the negotiations go with our



CPs. So it's very difficult to say. But a benchmark is the FTTC return that we're allowed to make, which is around 15%, but again, it's going to be commensurate on the risks that we take.

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**Polo Tang** - *UBS Investment Bank, Research Division - MD & Head of Telecom Research*

And then let's stick with that 15%. If you're aiming for 15%, what level of penetration and ARPU premium do you actually need?

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**Matthew Davies**

Well, I don't know, again, specifics, but it's clearly dependent upon the 2 things linked, right? So the model we think works best is fast migration, lower prices. That allows our CPs to compete and allows them to enhance our margins, too.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

And of course, Polo, what we want to get to is a decent base as quickly as possible, so that we can prove that the cost of owning customers on the new platform is significantly lower than on the old copper-based platforms, right? I want to see scale evidence for that.

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**Chris Lewis**

Chris Lewis from Lewis Insight. The question that comes to mind in a lot of the work I'm looking at around the sort of softwarization of the business, you talked a lot about the physical side and the -- and laying things out. What -- how would you describe just sort of the shift towards being more software-centered? Do you have the right skills in-house to be able to move to that sort of new velocity? Or are you relying more on partners to help deliver that?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Well, I think 2 things in response to that. One is that we have ramped up our investment in IT systems generally as enablers for the build process, particularly in Kevin's space. So we are spending money to a level that is higher than any time before to automate and facilitate clean, efficient build. And then maybe I'll hand to Olly just to recap on how we're using really quite up-to-date data-oriented skills to get underneath the cost base of service delivery where most of our people are.

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**Olly Kunc**

Yes. I think we're going to increasingly use work with third parties. The trick for us is to make sure we have the senior-level skills in-house to coordinate that effort and make it work. I won't argue it's -- there are challenges in that recruiting brilliant data scientists. And Google have opened an office just up the road, which is fairly large and fairly flat. It's a bit of a challenge, but we have an incredible research (inaudible) and industrial part, which we work very hard with. I think it's going to be about how do we balance brilliant senior-level skills in-house to coordinate efforts with a choice of brilliant third parties, anything from a spin-off -- small spin-offs from universities all the way through to large kind of partnerships with some of the biggest houses we work with. But I think we -- and I think with that model, it will work well. So I think it's going to be that combination. We're not going to build everything in-house. We're going to work with lots of externals.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

We -- I would also say, in answer to your question, it's not just about the skill sets of the people and the amount of CapEx you're spending on tech. It's also about how you deliver the tech. So maybe Hena from our CTIO team would just give you a little flavor of how we're switching from traditional IT delivery to agile delivery. And I'm very proud of the fact that we are -- we've adopted agile really quite rapid pace. So Hena, please.

**Hena Jalil**

Absolutely. So as Clive said, we have been working quite a bit on looking at our 3-year IT strategy. And we are looking to kind of uplift our core systems by around 60% to 70% over the next 3 years, obviously, managing the fiber scale-up as well. And that's going really, really well. We have a lot of in-house experience as well, and that is going to kind of help with the consultant stuff that Olly spoke about.

To pick up on the agile stuff, we are starting to work in a very, very different way now. And essentially, in the last 1 year, 25% of our delivery is now working in agile fashion, which has been recognized quite widely. We have also won awards with how we've been doing dev ops and how we're becoming faster in our deliveries as well.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Okay. Where are we going now? Yes, please. So we're going to go to the web, are we? Yes. Thank you.

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**Unidentified Company Representative**

A question from the web. This comes from Paul Sidney at Credit Suisse. Now Paul's question is, given the experience of the 2 million Openreach FTTP builds so far, what have been the biggest practical problems encountered in the field by your engineers?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Okay. So I'm going to pass this one to Kevin. So Kevin, you could stand up. I just want people to see Kevin. Kevin leads the build program for Openreach. So your reflections on the key challenges?

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**Kevin Murphy**

So I think initially, it's about engagement at the local authority level getting established. We've been very fortunate that we've been welcomed with the work that Kim and the team have done. We've actually found ourselves collocating counsel offices, (inaudible) traffic management, local wayleave and permissions and permits. So again, we find a pull into a lot of the studies, some not so. But again, a lot of them welcome the upgrade in their network. And again, just getting our supply chain and logistics set up, we've got faster and faster with that. We've learned through 2018, and we now have actually a really -- a very rapid setup process, both for people and resourcings and the logistics of moving things around. So we're very confident things are just getting faster and faster than in the last couple of years.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Okay. And I would reemphasize one of the messages from earlier, which is that we're not early to the FTTC build party. We have done our homework. So we know how the French do it, the Spanish do it, the Portuguese do it, the Americans do it, the Chinese do it. We've researched how they do it. So we have ruthlessly stolen best practice from around the world. That has given us a real edge.

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**James Edmund Ratzer** - *New Street Research LLP - Europe Team Head of Communications Services & Analyst*

It's James Ratzer from New Street Research. I was wondering if you could talk a bit about what savings you think you can deliver when you shut down the copper network? And given, I think, your returns at the moment below your allowed cost of capital, are those savings you think you can actually hold on to in future rather than Ofcom pushing those through in price discounts in the longer term?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Okay. Maybe I'll start by asking Richard to comment on that.

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

Yes. So what I would say that's important to think about is that we can realize savings as we are moving customers across. So -- because sometimes sort of make you thinking that you have to sort of wait, you've got everybody on the network. And at that point, you kind of realize some savings.

Actually, as customers move on to the network, then we benefit from the fault rates that we talked about in our presentation, and so we can start to reduce our costs. Ultimately, when we've got everybody across onto a new platform, you can start to think about decommissioning in. But that, I think, is further down the train. Our focus at the moment is on driving the early adoptions so that we can benefit from the savings as we transition people from our legacy platforms onto the 100% fiber platform. I don't know, Matt, if there's anything you'd add on that.

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**Matthew Davies**

Well, on the -- I think your other question about holding on to the savings, we heard some positive things from Ofcom about moving to -- moving away from cost-orientated regulation to one that encourages competition, which would potentially include also indexing price. In that scenario, we'd expect to keep hold of those savings, yes.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

And I just want to underline this business of you save money each time a customer moves. We've had a terrible weather period, right? And the East Mids and South Yorkshire have been under water in recent weeks. The fault rate in recent weeks has been much higher because of the weather. The FTTP customers, almost 0.5 million of them, the fault rate has not (inaudible), not at all. If anything, it's gone down. So every time you move a customer from copper to fiber, not only do you get a reduced cost to serve because they fault less, but you get this massive advantage of better predictability of cost, right? It just doesn't waiver according to weather. And for our business, that's a real issue. We -- and just to quantify, Olly, what sort of over time money have you spent recently during the bad weather?

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**Olly Kunc**

Too much. I'm not sure we've got money, but yes, we [even meant to contractual our environment] where, effectively, we force our engineers to work for rest days in every 6 weeks. And that is a pretty unpleasant thing to have to do. But Clive's absolutely right, the attractiveness of the fiber platform for me is not only a more efficient platform but more predictable than that. I mean that is fundamentally important to an operation such as ours.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Thank you.

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**James Edmund Ratzer** - *New Street Research LLP - Europe Team Head of Communications Services & Analyst*

If I come through in terms of just the fault rates, the decommissioning, how much is the total saving?

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**Matthew Davies**

I won't give you the specifics, but I think we've given you enough to give some indication. We've said that the fault rate is about 50% of what we see on copper.

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**Clive Selley** - BT Group plc - CEO of Openreach

Please.

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**Robert James Grindle** - Deutsche Bank AG, Research Division - Research Analyst

It's Robert from Deutsche Bank. I'm someone who believes as a retail customer, I'll never be touched by an Openreach robot. My question...

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**Clive Selley** - BT Group plc - CEO of Openreach

That can be arranged. (inaudible)

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**Katie Milligan** - Openreach Limited - MD for Customer, Commercial and Propositions

Yes.

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**Robert James Grindle** - Deutsche Bank AG, Research Division - Research Analyst

A question for Clive, I think. You've been around the world scouring for the best practice in technology. You just mentioned that again. According to the press, you are scouring -- again, looking for a third supplier for your network infrastructure. Maybe you could say a few things about that. Is that an opportunity? Or is it just a painting the [backs] that you have to switch out the guys you might be hedging against?

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**Clive Selley** - BT Group plc - CEO of Openreach

No. I think it's genuinely an opportunity. So a year ago in the FTTP space, we had 1 supplier. Today, we have 2 suppliers. By the end of next year, so 2020 calendar, the number of homes passed by technology type across the 2 vendors will be approximately equal, right? We think that we are going to be building a huge FTTP platform over a very long period of time. And we think it gives us leverage, both cost leverage and also technology functionality leverage, to bring a third supplier into the mix, and that is what we are focused on doing.

We are also focused on doing what has not been done before, which is looking for interworking of platforms between the vendors. So very specifically in the FTTP world, you have what we term headends or OLTs. And you have the widget that you put in the customer premise called an ONT. Traditionally, you have to buy those from the same vendor, and we're looking to specify an arrangement where ONTs and OLTs from different vendors can interwork. This gives us significant advantages.

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**Robert James Grindle** - Deutsche Bank AG, Research Division - Research Analyst

So is that like a parallel to the open WAN initiative on mobile? You can basically disaggregate...

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**Clive Selley** - BT Group plc - CEO of Openreach

That would be an analog for it. It's not quite the same, but it's similar, similar in effect, yes. Yes, right here, please.

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**Michael Bishop** - *Goldman Sachs Group Inc., Research Division - Equity Analyst*

Michael Bishop from Goldman Sachs. So without wanting to get the ruler out, but Slide 33, which is the CapEx split by technology, it looks like, big picture, you're going from sort of 30% to 50% split on FTTP. And I appreciate that you've got metrics and this is a 15 million business case, so the total might grow. But if you were to just keep the total at 2 million, and the mix goes from 30% to 50%, it sort of implies that you're freeing up 400 million of flexibility to divert into fiber away from copper CapEx, which obviously would be 1 million homes. I mean is that the right way to read it? Or am I missing something in that chart?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Matt?

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**Matthew Davies**

I didn't follow all of that, I'll confess. But I mean I think you should expect to see, obviously, the amount of copper investment that we're making today come down over time. So in the network part of copper, that's largely FTTC capacity. And of our network CapEx, about 30% of that today is copper, right? So you should expect that to come down. It won't go to 0, right? So -- but it will come down over time. In fiscal year '22 is when we start to see more significant reductions as people top out on the FTTC network.

And then from a provision perspective, it represents about 40% of provision CapEx copper today. And again, that will come down in time as we see FTTC top out. But we still do have quite significant fiscal line connection charge, which will continue so long as we provide copper-based services into the future.

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**Maurice Graham Patrick** - *Barclays Bank PLC, Research Division - MD*

It's Maurice from Barclays. Just a question on PIA ducts and poles, if I may. I wonder how much the demand is for that product. It's been around for years. I think you showed there isn't much uptake of it, but you have (inaudible) the product.

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**Katie Milligan** - *Openreach Limited - MD for Customer, Commercial and Propositions*

Yes.

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**Maurice Graham Patrick** - *Barclays Bank PLC, Research Division - MD*

A confirmation. You're delighted by customers using it, given it's probably a lower ARPU than the current products you have. How excited are customers about using it? And how much demand is there for the product?

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**Katie Milligan** - *Openreach Limited - MD for Customer, Commercial and Propositions*

Yes. So -- yes, good question, Maurice. So I think the demand is growing. So the figure I've had up there was last year. And we've obviously made quite a fair bit of changes into this year in terms of the IT, the usability, the scalability of it. And the use of it is probably parallel to the actual amount of alt net builds you can actually see. We've got about 50 alt nets or communication providers now using it. That is up from last year. And I think we will start to see it being used more. I think very much like ourselves, folks are in their learning phases, understanding how to use its skill. We can certainly start to see the notice of intent. That is where folks plan to build coming in. That's increasing. And we can also see the user pool significantly increase as well.

So we're ready for it. We've got 100 people that have just been recruited specifically for it across the U.K. And we will see that continue to grow, but as you see, it's relatively small.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

And I would just add, we are committed to it working for those who choose to use it, right? So very clear, with Ofcom, this is a product that will be scalable, will be usable. And then it's about whether other builders choose to use it, right? But we are delivering a decent product. We're committed to that, Maurice.

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**Katie Milligan** - *Openreach Limited - MD for Customer, Commercial and Propositions*

Yes.

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**Maurice Graham Patrick** - *Barclays Bank PLC, Research Division - MD*

Okay. Sorry, sorry. I just want to do it.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

In sequence, in sequence.

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**Maurice Graham Patrick** - *Barclays Bank PLC, Research Division - MD*

Thank you, Clive. I'm sorry, Nick.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Yes, we'll be there. We'll be there.

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**Maurice Graham Patrick** - *Barclays Bank PLC, Research Division - MD*

Just a simple question, I think, for Clive or for Richard. On a 5-year view, do you think Virgin Media wholesales? And how do you think about that when building your investment case for FTTP given volume that would rip out?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Okay. Let me start. I think you're asking the wrong people. I think you should ask Virgin Media whether they will wholesale. I think also that wholesaling is a nontrivial exercise. So I think we have honed our ability to wholesale over many years. Actually, wholesaling involves having end-to-end business processes that are essentially chopped in the middle. One part of it owned by the wholesaler, the other owned by the retail. This involves building very large-scale IT that communicates with a detailed process. Also, the orders, trouble tickets, appointments, the whole works can traverse the interface and work at scale. I would remind you that wholesaling, when successful, is a very scaled business.

Olly pointed out to you that he does 190,000 engineering jobs a week. All of that has to work across IT interfaces. It is nontrivial to deliver the IT enablers, the business process enablers for wholesaling, right?



And one of the things that our CPs benefit from is a set of wholesaling services that have been refined over time, right? And then think about it through a CP lens. If a CP consumes our services and services of another wholesaler, they've got double businesses processes, double IT interfaces. They potentially got different CPE that they would then deliver to their end customers, depending on which technology it is, whether it's FTTP or whether it's maybe HFC DOCSIS. I think the whole thing is nontrivial, right? That's what I think. Anything to add?

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

Well, the only thing I'd add is that we are fully focused on what we are doing, which is building a fantastic platform, and then pricing it and then mining -- designing commercial structures for it that work for our CPs and allow them to get on the platform quickly and upsell their customers onto the platform. So that's where we are 100% focused in terms of what we're doing.

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**Maurice Graham Patrick** - *Barclays Bank PLC, Research Division - MD*

So in terms of your business case and the base case, can I take that to mean that there isn't anything on a 5-year view for Virgin wholesaling?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Well, in our business case, we model the impact of other network infrastructure providers in general, right? And we have a variety of scenarios within the business case that model the impact of different amounts of build by the alt net community and different pricing strategies by the alt net community that would lead to different outcomes in terms of our share, their share as a group, right?

Sorry. Could we steal a microphone? We gave you a microphone and stole it. I apologize.

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**Nick Lyall** - *Societe Generale Cross Asset Research - Equity Analyst*

This is Nick Lyall from SocGen, please, Clive. Just one, it's -- previously, it sounded as if there's zero chance of the enablers being qualified in December from Ofcom, but you sound a bit more optimistic to this. Has something changed that we've missed maybe in your talks over the last few weeks?

And secondly, could you just clarify what happens if you disagree with the BT Board level? How do you fight it out?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

If I disagree with...

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**Nick Lyall** - *Societe Generale Cross Asset Research - Equity Analyst*

If you disagree with the BT Board about returns and the enablers being satisfied, that you should go because you see an upbuild, for example. How do you fight out between the 2 of you?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Okay. The fight with the Board, I better do that one. Where's Mark? Mark is Head of Regulatory Affairs. Could I ask him to address your -- the first part of your question?



**Mark Shurmer** - *Openreach Limited - MD of Regulatory Affairs*

Yes. So I think what we've seen with Ofcom is a pretty consistent direction of travel from them, really, from the wholesale local access market review back in 2018. And in successive Ofcom documents, I think we've got greater clarity and greater encouragement in terms of them recognizing the need to encourage full fiber investment by ourselves and others. And we're expecting further clarity on that in the document that I think will be out shortly, whether it's out in December or early in the new year, but will be shortly from Ofcom. And I'm expecting them to -- Richard outlined earlier, the enablers. I'm expecting Ofcom to give further clarity on that and continue that positive trajectory. For us, we need to look very closely at the detail.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

And on the question of fights with the BT Board, on fiber, we have had no fights to date. So we have presented our business case. The way we do that is to work it with the Openreach Board. And then because of the sheer value of the thing, we then take it to the BT Board. And we have been supported so far in the build up to the 4 million points. And we have been in detailed discussions with BT about what enablers have what impact on our business case.

And so I'm not envisaging a fight, right? So we already know what we need in different combination amongst the various enablers. I think we have a very common read on what would constitute a good outcome and what would be an insufficient outcome. So I'm not anticipating a fight. They have supported me in building full fiber, and they are encouraging me because they, too, think the enablers are likely to come to pass.

I got in trouble last time. I'm not intervening.

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**John Karidis** - *Numis Securities Limited, Research Division - Analyst*

It's John Karidis from Numis. So in the past, Clive, you've sort of implied that you wanted Openreach to supply -- to build out FTTP almost nationally. If we just forget for a minute the last, whatever you want to call it, 20% of the country, under what circumstances would Openreach desist from overbuilding alt nets in the 80% of the U.K.? Or are you very likely to overbuild...

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Under what circumstances would we desist from...

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**John Karidis** - *Numis Securities Limited, Research Division - Analyst*

Would you not overbuild alt net in the 80% of the U.K. or, if you like, the 2/3? Or shall we take it as given that you will absolutely overbuild all of them in urban and suburban areas?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

I think the simple answer is we will build where it is economic for us to build, right? It makes a difference if there are alt nets or even multiple nets in a place. It would affect the economics of us building, right? But we will -- we'll sort of judge this as we go, right? The great outcome for me is if we can prove over time that we can keep reducing our build cost point, basically, if we can do that, we can go further with the build and get an economic return. Is there anything you want to add?

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

No, I think that's spot on. I mean in terms of how we think about where we build, there's a range of factors that we take into account, the costs, the competitiveness of our existing platforms, the -- how much take-up we expect, right? So it's a range of factors that play into it. And as Clive said, over time, those things will change, and we'll learn more about take-up and different environments deployed in all the rest of it. So it will change over time. But at the heart of it is the economics, as Clive's outlined.

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**John Karidis** - *Numis Securities Limited, Research Division - Analyst*

So I'm sorry. For a particular urban areas, let's say for the sake of argument, Zzoomm in Henley, once they build this, and you haven't built that -- at that area, does that mean that you want -- you just leave it to them and then we've won until the next one?

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

No, it doesn't mean that. So again, there's a range of factors, right? So it depends on what our take-up is in that area, what we expect our take-up to be, what the build cost is in that area. You can't -- it's not just -- is there -- are there any other competitors in that area, right? It's not one sort of factor that we take into account, it's a range. And just because alt net has gone somewhere does not mean that we won't go there.

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**Matthew Howett**

Matt Howett from Assembly. I think, Richard, you said that there's this belief that consumers will pay more for higher-quality broadband and not just faster broadband. I mean is that something that consumers are telling you? Or is it something you're observing somewhere else, specifically about quality?

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

Yes. What we definitely observe from the research we do with customers when we talk about CPs is this notion that it's a broader set of parameters that matters to people, right? And at which speed is one or downstream speed is one, but it's not the only one. There's all the other factors. And when we think about how people are using broadband and are going to use broadband over the future, we think that broader set of parameters is going to get more important, right? So I think I had a chart that showed sort of the #1 factor was reliability at the moment, for example. When you think about what people are doing on the Internet, how important that is to them, that's really at the heart of why we think the broader set of parameters is going to become more important as we go over the 2020s. And we think almost all of those plays to the strengths of FTTP or 100% fiber network over the FTTC or copper broadband services we've got today.

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**Adam M. Fox-Rumley** - *HSBC, Research Division - Analyst, Global Telecoms, Media and Technology Research*

It's Adam Fox-Rumley from HSBC. Your network gets compared regularly in the press to Japan and Spain, all kinds of different places. You've got very ambitious CapEx plans. You have big targets for mid-2020s if everything goes according to plan. I guess my question is, do you think you're doing enough to show the people that matter what you're doing is sufficient? Do you think people understand that politicians of all flavors, really, because that seems to be, irrespective of the election outcome, pretty critical?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Yes. So I think it's a very good question. Are we doing enough? Well, in the last 2, 3 years, we put a huge focus -- as we've begun the FTTP build, right, the last peers, in particular, we've put a huge focus on communication. So we invest an enormous amount of time. Ms. Catherine here runs corporate affairs. She was hired very specifically to raise our profile and get our message across to politicians of every type, Westminster government, Scottish government, Welsh assembly, Northern Ireland. I personally escorted and babysat as I speak to loads of politicians, huge numbers. And



it's not just about politicians. It's engagement with the newspapers, with the TV media. It's how we respond to end customers. It's how we communicate our story on full fiber to the CPs. We're putting lots of effort in.

Could we do more? Is that your question? I'm sure we could. Will we have to go even harder on about Friday onwards from next week when we find out who will lead the next government? Yes, we will. We'll engage as hard and fast as we are allowed to, to sell our story, explain what we're doing and underlying the sheer speed that we're now moving at, the ramp-up that we're going through and how we believe very sincerely that no one else can build at the rate that we are going to build. And on that basis, we ask for their support and a bit of their patience as we get the build done. Because whilst 2 million from a standing start is a decent number, this is 2 million in a country with 32 million premises. So we've a long ways to go. I acknowledge that. I hope that answers your question. Any other questions, please?

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#### Unidentified Participant

Alexander (inaudible) from (inaudible). You mentioned new products for small and medium enterprises coming. Can you give any detail ahead of this on this? Specifically, is this meant to be a BT-Openreach initiative? Or is it another use of the Openreach platform by other parts of the group? And can you give us more detail into this?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Katie, please.

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**Katie Milligan** - *Openreach Limited - MD for Customer, Commercial and Propositions*

Yes. I'm not sure which specific point you're referring to, but we are continuing to look at the portfolio. We do think that there is a particular use case for SMEs, particularly in -- as we move to all IP, you can see some of the SMEs. I think actually, BT Enterprise has launched their own digital voice proposition. So we can see that in the voice market.

Also, if we look at the broadband market, we do believe that there is a segment of smaller and medium-sized enterprises where their needs for broadband will grow, which won't be satisfied by either the copper-based services or indeed the fiber to the cabinet. So that is where we are looking in that business, FTTP-type proposition.

Speaking to industry around what that really looks like and whether or not it's some form of prosumer-type proposition, so yes, we do think there's a bit of an untapped market there for small and medium-sized enterprises that we want to lock with them. Does that cover your question?

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#### Unidentified Participant

Yes, yes. Can you clarify that -- can you clarify if this is an Openreach product or BT or BT Italia or [BTI]?

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**Katie Milligan** - *Openreach Limited - MD for Customer, Commercial and Propositions*

I only deal with Openreach products, so with that said, yes. And all of our products are offered obviously to the whole of industry on an equal basis. So whichever we -- whatever we build, it will be available to the rest of industry.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Yes. So we -- and we take it to the CP community. And when serving business customers, the big guys or the Vodafores, the TalkTalk business and the BT Enterprise, those are our big channels for business and business customers, slightly different in the consumer market, right?

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**Katie Milligan** - *Openreach Limited - MD for Customer, Commercial and Propositions*

Yes.

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**Samuel McHugh** - *Exane BNP Paribas, Research Division - Analyst of Telecom Operators*

It's Sam McHugh here from Exane. One quick question just on kind of read across from other countries. We've heard one of your peers today in a not-too-faraway country kind of warning people about CapEx and fiber deployment for like probably the third or fourth time in the last 7 or 8 years. Kind of what have you learned from the other providers?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Tons.

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**Samuel McHugh** - *Exane BNP Paribas, Research Division - Analyst of Telecom Operators*

Specifically what kind of best practice have you learned? Can you give a good example maybe?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

I can lecture you on how Orange build fiber networks. I can lecture you on how SFR, their key competitor, builds fiber networks and how it is different to Orange.

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**Samuel McHugh** - *Exane BNP Paribas, Research Division - Analyst of Telecom Operators*

So could you give a few specific examples about kind of the best practice that you have learned from these other countries and what you were (inaudible) brings to the U.K.?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

The answer to that is we would like to show you at the end, right? So when we finish here, those who are interested can come and look at some of the ways we are building fiber that we think differentiates us from others or is best practice with few of the others, okay?

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**Samuel McHugh** - *Exane BNP Paribas, Research Division - Analyst of Telecom Operators*

If I could do a cheeky follow-up, unrelated, just on G.fast. Kind of where are we on G.fast? Are you still spending money on pods? Or has it kind of ceased now?

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Okay. That's a very good question. G.fast is out there. We'll have a footprint of about 2.7 million homes passed by end of this fiscal. The sales are now ramping up. Our customers, through the volume deal that we did a year ago, have to give us some ultrafast in the mix. So that will naturally ease up sales. The customer experience feedback from customers who have adopted G.fast is positive. And it's a great way at relatively low cost to test the appetite of consumers for ultrafast. And it's going okay, right?

Now in the light of our decision to go very hard and fast on FTTP, it will definitely be a smaller part of the mix going forward. FTTP is the core strategy, but G.fast is still there.

Is it okay? Right. Any other questions, please? One here and then back, please.

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**Unidentified Participant**

I think I'll ask. Why is fiber not a lower fault rate than 50% versus copper? It kind of feels new. It's last 100 years. Is there -- what is the limiting sort of level? Is it that people digging up the road and stuff like that? Can it get better than 50%?

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

So it can get better than 50%, we think. And you saw on the graph there, it has declined in the past even 8 months. There's 2 things that caused it. One is a level of componentry. So I'm working with Andy, the Chief Engineer here, to give best practice, to make sure bits don't break. So plugs that go into the bottom of an ONT don't break or the ONT itself has any issues.

We also see customer fault rate coming through. So in the home, there's the -- there's a lot of faults going into the home because people don't know how to use ultrafast. So they ring us up saying, "I can only get 100 megs on my phone," but they're in 4 rooms away with big brick walls in between. So understanding how it works is coming through.

But you are right, a lot of it is kind of acts of God or acts of builders, so people digging through cables. Wind, we still build overhead. So wind takes down trees and takes down fiber. That's a lower limit, and we are on our way to that.

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**Unidentified Participant**

Okay. And a quick follow-up. When you install a new customer, are you still using the copper path for voice now? Or have you moved full to the IP solution?

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

So wherever a CP has an IP solution, that's what we use. If a CP does not have an IP solution, we still provide a voice path for voice.

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**Unidentified Participant**

Okay. So is BT Retail now on the IP solution?

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

No.

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**Unidentified Participant**

No.



**Katie Milligan** - *Openreach Limited - MD for Customer, Commercial and Propositions*

So we've got -- well, we've got CPs trialing it out. So they'll be moving on to it when they're ready. But ultimately, it should just be FTTP.

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

Yes. And (inaudible) as well.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

And of course, we are very keen to not use hybrid drop cables because a fiber-only drop cable is lower cost, but we can only move as fast as our CPs.

Right. Last question then, please, last question?

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**Unidentified Participant**

How important is getting permission to change your prices geographically of Ofcom? Because it sounds like that would probably happen over the dead body of all the alt nets. So I'm trying to understand how important that would be.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Yes. It's a good and fair question. Yes, good question. Richard, please?

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**Richard Allwood** - *Openreach Limited - Chief Strategy Officer*

The key point here that I think I tried to emphasize this when I was talking about the enablers, we look at it in the round, right? So you can't pick on any one enabler and say, "Well, if you didn't get that, what would happen, right?" We look at it as a package that we have to consider. Given where that outturn has sort of come out, how do we want to approach that? Is that sufficient to see us build the scale and pace that we'd like to? So you kind of have to start by thinking it in that context.

Geographic pricing, clearly, it gives us greater flexibility to respond as the market unfolds, exactly how market is going to unfold. I don't think it's our first preference. I think as we talked about, what we want to do is arrive at deals with our CPs that work for them in the sense of being able to enable them to get their customers on the platform quickly and work for us in terms of giving us the certainty around take-up at pace that we're looking for.

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**Clive Selley** - *BT Group plc - CEO of Openreach*

Okay. Right. Well, thank you very much for your questions, and thank you for giving us your time today.

There are 2 opportunities now, should you be available to stay for a little bit. So we have, on the right-hand side, Surinder willing to demonstrate how we are transforming processes according to Olly's narrative earlier, including elements of the FTTP process. And then on the left-hand side in the showcase, we have people available to show you some of the FTTP build techniques that we are using that really are part of what gives us the edge on speed of deployment and cost of deployment.



So if people are interested, who is available to stay a while? Yes. Enough -- right, a fair few. So please, I think with that sort of number, could I ask that people here and to the right of here start over there, a quick trip through cost transformation and service improvement essentially. And this side of the room into the showcase where we'll show the network.

Thank you very much for coming today. Thank you.

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