Annex A

Risk sharing and co-investment

A.1. Alternative investment models

Ofcom expects investment benefits to arise from a more responsive Openreach, in particular Ofcom states that its Proposals:

- "*should support continued investment in new networks and services, in particular new ultrafast broadband networks. Investment decisions that are currently in the pipeline would be taken in the interest of all of Openreach's customers. New models of investment will become more likely, including models that share risk across a broader base of customers.*"[1]

More specifically, Ofcom anticipates that its Proposals should result in new models of investment whereby Openreach would act as a partner in risk-sharing and co-investment arrangements.

- *Increasing Openreach's autonomy over budget and decision-making: One outcome of this increased autonomy could be the ability for Openreach to reach co-investment or risk sharing agreements with operators other than BT.* [2]

- *The proposal should also result in new models of investment, by making Openreach a much more attractive and open partner for risk-sharing and co-investment opportunities. These make it easier to deploy new networks, including those based on fibre to the home. This is because they allow the demand from different providers to be aggregated, thereby making it easier to achieve the necessary penetration for such deployments to be profitable, and they spread the associated risk across multiple providers.*[3]

In assessing the success of its intervention, Ofcom intends to focus on certain outcomes for people and businesses (recognising that these are not solely under the control of Openreach). One of these outcomes is, "*improved investment outcomes arising from new potential models of investment, such as co-investment and risk sharing*."[4]

This Annex explains:

- the main features of risk-sharing and co-investment arrangements; and

- different market conditions affecting adoption of these models in the UK and other countries.

[1] Para. 1.7, July Consultation.
[2] Para. 6.66, Initial Conclusions.
[3] Para. 6.13, July Consultation.
[4] Para 1.47, July Consultation.

A.2. Main features of risk-sharing and co-investment

Ofcom does not spell out what it means by new models of investment. BT assumes, therefore, that Ofcom is referring to potential arrangements between Openreach and CPs which might comprise:

- **purchase commitments –** a long term commitment to purchase, for example through an Indefeasible Right of Use ("IRU"). Under these arrangements, the grantor (i.e. the network owner) invests the capital for the network construction and signs IRU agreements (in advance) with the users. The user acquires the right to use network facilities, cables or fixed capacity of the grantor for a pre-specified period of time. For example, this might involve the right to use dark fibre (usually offered with maintenance), or a predefined amount of capacity (including use of the transmission equipment) or a network facility (ducts) for a significant proportion of the potential life of the asset.[5] The grantor usually holds the ownership titles and controls of the asset.[6]

- **co-investment –** this would involve a prior commitment to share the fixed cost of a project, i.e. to cover costs which are potentially unrecoverable. Having contributed to the fixed costs, ongoing usage charges would be lower than average cost. In principle, as the initial contribution towards fixed costs increases, the discount on average cost should increase, and the discount levels would need to be agreed between the parties. More specifically, undertakings acquire specific rights of exploitation on agreed terms for specific terms.

A.3. Adoption of these models

In the UK, the legal and regulatory framework does not prevent any form of co-investment or risk sharing where this offers an efficient investment solution for stakeholders, although where arrangements involve Openreach, equal access obligations will apply to any new investment. However, these models have not been adopted extensively in the UK. In 2012, Ofcom informed BEREC there was little interest in co-investment in the UK (so Ofcom had not considered regulatory issues around infrastructure cost sharing on regulatory terms).[7] BT considers that this remains the case today on the basis that it has not been approached regarding co-investment or risk sharing arrangements by CP with specific proposals. There are a number of reasons for this, namely:

- **an extensive regulatory regime based on regulated wholesale access and strong service level competition** - alternative models of investment are unlikely to be attractive to third party CPs where there is an extensive portfolio of regulated access services, such as in the UK. In other words, where the regulatory regime delivers access products to third party CPs which allow them to compete effectively

5 As IRUs are a long term leasing arrangement, any participant will need to be confident that there will be a long term demand for the facility, as is the case for example with high capacity undersea fibre cables. In effect, participants need to be able to agree to the terms of the cost sharing, and have a shared and common view that the facility has a long expected economic life.

6 BEREC states that an IRU can be defined as the agreement between two parties, the "user" and the "grantor". BEREC, "Report on Co-investment and SMP in NGA networks" (2012), page 36.

7 BEREC, "Report on Co-investment and SMP in NGA networks" (2012), page 26: "A number of NRAs (including Belgium, the Czech Republic, Norway, Sweden and the United Kingdom) consider that, since there has been no evidence of co-investment plans in the near future in their country, reflections on the issue of symmetric regulation have not yet been necessary."

by delivering value and innovation to their customers, the incentive to participate in risk-sharing or co-investment models is likely to be low. CPs are more likely, in these circumstances, to consume these access products (which are for them a low risk option) and then make their own investments downstream. Ofcom has the option to make a regulatory strategy choice. It has chosen to prioritise competition based on wholesale access: it could choose to prioritise infrastructure-based competition. But it cannot do both, as the two approaches conflict.

- **challenging economics for new investment** – investment must be supported by a viable business case irrespective of the investment model pursued. Co-investment and risk sharing will not improve a commercial case if the fundamental economic variables do not stack up. FTTP deployment in the UK is extremely challenging due to the high costs of roll out, uncertain customer willingness to pay and, in particular, market share constraints (in the context of two existing networks and an extensive access regime). Risk sharing (through purchase commitments by one or more CPs) and/or cost sharing is unlikely to overcome these significant economic challenges.

- **absence of funding constraints** – co-investment might be attractive where a business case for investment exists but where a lack of capital on the part of the network investor is the barrier to investment and where that investor welcomes the addition of capital that co-investment can bring. This, however, is unlikely in the UK where the main network providers (namely BT and Virgin Media) are well capitalised. Commenting on this scenario, Enders states:

  "[w]e regard this as making little sense; BT has plenty of access to the capital markets, so if an investment is worth making, it will make it, and we see very little chance of BT's competitors being willing to stretch a business case further than BT."[8]

A.4. Co-investment models in France, Portugal and Spain

In contrast to the UK, in France, Portugal and Spain, there has been a limited wholesale access regime, including no active remedies and, with low FTTP deployment costs, entrants have installed their own FTTH infrastructure with co-investment arrangements focused on the final connection to the customer (i.e. sharing of in-building wiring in Portugal and Spain, or to a broadly equivalent fibre terminating segment in France. In these countries, co-investments have tended to involve standard facilities (i.e. in-building wiring), as opposed to new and emerging technologies, all of which has been supported by the use of symmetrical as opposed to the asymmetrical regulation in the UK.[9]

A short summary of the symmetrical regulation used in these three countries is provided below.

A.4.1. France

As described by WiK[10], in France, the access point applying to symmetric obligations (referred to by ARCEP as the 'mutualisation' point for the 'terminating segment' of the fibre loop) is

8 Openreach: The Seventh Degree of Separation, Enders Analysis 4 August 2016.
9 That is, regulation which applies to all investing companies, as opposed to asymmetrical regulation which applies only to SMP operators.
10 WIK "Competition & investment: An analysis of the drivers of superfast broadband", a Study for Ofcom (2015).

decided by ARCEP – that is, it is a regulatory construct, not a freely agreed commercial outcome – and can be at the first distribution point outside the building.

- ARCEP decides on the location of the mutualisation point based on its 'ex ante' assessment of the degree to which access infrastructure could be duplicated: where the mutualisation point is at the base of the building, financing of the in-building connection is equally divided amongst participating operators.

- In very dense areas, the mutualisation point can be at the base of the building (for multi-dwelling units housing more than 12 households or business premises), or at points aggregating a number of buildings.

- In 'less dense' areas, the mutualisation point would be at a location aggregating at least 1,000 households (or 300 households if additional backhaul is used to aggregate 1,000 households); with a few exceptions, co-financing is available in tranches of 5% of lines.

Although pricing arrangements are agreed bilaterally between operators signing a mutualisation arrangement, ARCEP can resolve disputes.

In order to 'industrialise' a process which involves many public and private sector organisations, ARCEP has published guidelines both as regards pricing and operational arrangements for telecom providers operating under the mutualisation regime.

A.4.2. Portugal

According to Vodafone,[11] in Portugal vertical wiring in "each building owns its vertical wire" although operators are liable for all costs associated with the construction of the wires. These costs are shared equally by all operators active in the building. This implies that the costs are initially borne by the first operator that becomes active in the building. However, as more operators start operating in the building, they reimburse the first operators for part of the costs. Hence, if n operators are active in the building, each pays (the cost of vertical wire installation).

About 40% of Portugal's population live in MDUs against 12% in the UK.[12] Analysys Mason reported that Portugal Telecom claims its costs per premises passed are under EUR 200, around four times less than the average for Western Europe[13]. In addition, the retail market is very concentrated, with two suppliers accounting for nearly 90% of all broadband connections[14], as opposed to four suppliers in the UK. There is no requirement for the SMP operator to supply active wholesale services.

Further, the effect of co-investment on FTTP investment in Portugal is not clear. The agreement allows PT and Vodafone to count each other's lines in their footprint, and neither

[11] Vodafone Response to the Discussion Document.
[12] Analysys Mason Report, Figure 1.3
[13] http://www.analysysmason.com/About-Us/News/Insight/Portugal-Telecom-fibre-infrastructure-Nov2012/
[14] Altice, Acquisition of Portugal Telecom, January 2015 at: http://altice.net/wp-content/uploads/2015/04/150123-acquisition-portugal-telecom.pdf.

party has made announcements to the effect that it has planned to increase its investment in FTTP as a result.[15]

A.4.3. Spain

According to WIK, there is no active access to fibre-based NGA, instead symmetrical obligations apply for in-building wiring, which require the first operator to deploy fibre in a building to provide access to in-building fibre wiring at the distribution point inside the building.[16]

Vodafone report that two different regulations are in place regarding in-building wiring:

- any building constructed after 1995 has to include a “Common telecommunication infrastructure” (CTI) for telecom networks. In 2011 the law was updated and specifies that all building built after 2011 have to have a CTI which is able to support NGA networks; and
- symmetrical regulation is imposed for buildings without CTI and buildings built before 1995.

According to in-building regulations, the operator that first develops vertical wiring in a building remains its owner. However, the operator has to develop the wiring as to allow for sharing and the ownership can be transferred to building owners or other operators if commercially agreed. The first comer has the following obligations: to provide access to the vertical wiring to other operators; and to provide access to the last drop (i.e. the cables connecting the vertical wiring to a specific flat).

For older buildings without CTI, wires are placed on the façade. The last drop is then considered to start from the street cabinet and arrive at the single flat. In this case, each operator is responsible for connecting a customer to the cabinet through installing cables on the façade of the building. This regulation is under review.

In short, the conditions and regulatory regime in which co-investment has emerged in these countries do not exist in the UK.

[15] In November 2013, Vodafone announced plans to increase its target footprint for 2015 by 0.5m premises to 1.5m premises. In July 2014, it announced that its 2015 footprint target was now 2m homes after incorporating the 0.45m homes covered by the agreement with PT. Whilst the 2015 footprint is 0.5m higher than before, 0.45m of these lines are not being provided by Vodafone at all.

[16] WIK “Competition & investment: An analysis of the drivers of superfast broadband”, a Study for Ofcom (2015).

Annex B

Quality of service

B.1. Introduction

In its Initial Conclusions, Ofcom identifies concerns with regard to customer service and quality of service:

- *"When services work well for people, they report good levels of satisfaction. However, with consumer expectations rising, basic customer service and quality of service is too often poor."*[17]
- *"Urgent improvements are needed to quality of service."*[18]
- *There was broad agreement among stakeholders, including Sky, TalkTalk, Vodafone and consumer groups (**but excluding BT**), that Openreach's performance does not meet the needs of its wholesale customers, consumers or businesses.*[19]

The words emboldened in the third statement above significantly mis-represent BT's position: they imply that BT either denies that there is a need for quality of service to rise and continue rising, or that BT is not committed to delivering the best service possible. Nothing is further from the truth. In its response to Ofcom's original DCR Consultation BT acknowledged in Section 4.9 that:

- "Service has not always met customer expectations but is improving and we have plans to improve further: being a key part of BT's commitments for the future."
- "BT acknowledges that service has not always met customer expectations."

This annex sets the record straight.

B.2. Ofcom knows that BT is already very committed to increasing service standards to meet ever rising customer expectations

Ofcom's positioning of the issues in relation to service fails adequately to recognise the progress already made in relation to Openreach service. In consequence, its positioning lacks balance: it appears to be based more on political considerations than an objective appraisal of the relevant facts. It is therefore unreasonable to rely upon this as evidence to support an argument that without significant changes to the Openreach governance model, progress will not be made in relation to quality of service.

BT highlights the following, which all evidence BT's drive to enhance service, all of which Ofcom is already aware of:

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17 Para. 1.9, Initial Conclusions.
18 Para.1.33, Initial Conclusions.
19 Para. 5.12, Initial Conclusions.

B.2.1 BCMR products

- In the course of the recent BCMR Ofcom acknowledged that Ethernet repair service was already at good levels, and that all that was needed was effectively a 'safeguard' Minimum Service Level (MSL) to ensure that future performance was maintained at historic levels.

- Openreach itself acknowledged in the course of the BCMR that other aspects of service (in particular relating to provision) were not good enough. It positively engaged with the need for change, for example by accepting the wider construct of Ofcom's proposed interventions, if not all of the details.

- Openreach also decided to publish Ethernet performance metrics on a voluntary basis ahead of any regulatory requirement to do so. This is further evidence of Openreach's commitment to transparency in relation to service performance. We would also stress that the metrics that are published on a voluntary basis by Openreach are a fair appraisal of performance and have not been hand-picked in a way to show Openreach performance in an artificially good light.

B.2.2 FAMR Products

- Since MSLs were introduced for Copper products[20] in the 2014 Fixed Access Market Review (FAMR), Openreach has successfully exceeded every one of the 120 MSLs where the compliance period for that MSL has been completed (composed of 60 out of 60 in 2014/15 and 60 of 60 in 2015/16). Furthermore, Openreach is also ahead of 60 out of 60 MSLs YTD in 2016/17.

- It should also be noted that the targets for two thirds of the MSLs have become tougher year on year[21], and so Openreach has had to work hard to make sure that its performance continues to improve over time so as to maintain the (so far) 100% compliance record. Ofcom is well aware of this strong performance against the MSLs imposed, and while Openreach recognises that successfully exceeding the MSLs is the start rather than end of its commitment to excellent service, this positive performance should be acknowledged as part of any balanced public commentary on its performance.

- Further, the public KPIs that Openreach publishes as a part of its FAMR obligations, which show a wider set of metrics for MPF and WLR than the MSLs (for example, they include 'tail' performance for provision and repair), generally show improving performance trends over time against the majority of the measures shown. Examples of improvement are shown in the table below.[22]

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20 WLR and MPF.

21 The MSL targets for repair performance and provision appointment availability have increased year on year over the 3 year course of the FAMR.

22 Source: Public KPIs found at: http://www.homeandwork.openreach.co.uk/OurResponsibilities/our-performance.aspx

Metric	**Performance Jan-Mar 2014**	**Performance Apr- Jun 2016**	**Level of Improvement**
Average time to install (engineer required)	16.9 working days	12.5 working days	26%
Faults fixed within agreed SLA	65% to 68%	80% to 84%	Around 15 percentage points
Proportion of people that needed to wait >22 days for an engineering appointment	12%	0.09%	99%
Average first engineering appointment slot offered	11.2 working days	6.7 working days	40%

B.2.3 Other service improvements

- Openreach has also made significant improvements to other aspects of its service (which are not subject to MSLs) which have been a cause of customer dissatisfaction. For example, Openreach missed appointments in Q2 2016/17 have been reduced to 3.6%, a 7.7% reduction on the same quarter in the previous year, and Openreach is targeting a further reduction to 2.5% by the end of financial year 2016/17.

- Finally, since Ofcom introduced a new scheme for amending Service Level Agreement / Service Level Guarantee (SLA/SLG) schemes, Openreach has engaged very proactively with industry, via OTA2 facilitation, in developing new proactive SLA/SLG schemes, thereby further strengthening the incentives on Openreach to deliver consistently high levels of performance. For example, since the 2014 FAMR Statement, Openreach has enhanced seven schemes and launched nine new schemes. This has created probably the most comprehensive set of wholesale SLA/SLG schemes in Europe.

In sections 7 and 8 of this annex below, we also provide further detail of service improvements made by Openreach in recent years.

B.3. Service regulation needs to recognise the balance between service quality and price

Although regulation has contributed to the good outcomes achieved over the last decade, some features of regulation since 2005 have not been successful, and Ofcom's policy in a number of important areas has not kept pace with the dynamics of the market and with changes in consumer demand.

Regulation has not adequately prioritised service improvement. In the last decade, Ofcom has taken £1billion of profit out of Openreach in pursuit of lower cost networks. It was only in the 2014 FAMR that Ofcom first publicly recognised that service quality was also important as well as lower cost. Customers do not want just ever cheaper broadband networks. They want better, faster, more reliable and more widespread networks and services, with high service standards, and these come at a price.

BT welcomes the fact that in the FAMR, Ofcom rightly acknowledged the trade-off between quality and price. Of course end customers want the best possible service, but if they are not willing to pay for it, how should this be managed? Customers do not simply want ever cheaper broadband: they want faster, better broadband.

Having started to address this important issue in the 2014 FAMR by building allowances for customers' service expectations into the associated charge control, we now encourage Ofcom to continue to promote service improvement in its future policies and charge controls, using its powers under the European Common Regulatory Framework (CRF).

We believe Ofcom should be carrying forward the model it adopted in the last FAMR and associated charge control in other market reviews, treating service as a third pillar alongside price and competition, and taking customers' service needs into account when setting price controls. However, with the proposed combination of a harsh charge control, mandated dark fibre, changes to cost allocations and remedies plus extremely challenging service level targets imposed in the recently-concluded BCMR, Ofcom appears to be reversing this positive change. Ofcom's BCMR proposals represent a loss of [✂] of revenues from Openreach in a three year period.

A regime as draconian as this risks being damaging to the service, quality and coverage provided by Openreach. It is also a factor that will be extremely relevant if, following this strategic review, Ofcom is minded to assess the performance of Openreach by reference to improvements in quality of service.

B.4. Quality of service can be an important product differentiator.

As broadband access services become increasingly commoditised, and as end consumers increasingly choose to purchase bundles of services, (often including telephony, broadband and pay TV services), in a highly competitive retail marketplace, customer service, and quality of service can increasingly be important service differentiators. Different CPs may chose to focus on different segments of the markets offering low cost "value propositions", mid-range offerings, or higher priced feature rich and high quality of service propositions. Within that competitive and strategic commercial dynamic, quality of service is but one factor.

It is not for Openreach to dictate the service packages purchased by CPs. In this respect it is noteworthy that Openreach offers a wide range of different reasonably priced repair care level packages, ranging from fix in 2 days Monday to Friday to fix in 5 hours 365 days a year[23], and that CPs often choose to purchase the lowest level of assurance. These packages give CPs the choice of how they will develop their commercial offerings in the competitive retail market.

[23] The 5 hour repair fix is offered against Openreach's Ethernet and Optical products.

Some CPs are choosing to move their existing customer bases from higher care levels to lower ones (for example, Sky and [✂] are moving from MPF care level 2 to care level 1). That is entirely their choice. Openreach continues to innovate in this space, for example launching 'care level 2.5' which offers a higher assurance of fix by end of next working day. This was launched in response to business customer requirements and is offered in tariff as part of Openreach's Premium WLR product as well as on a standalone basis.

Any future measurement of quality of service will need to have regard to the choices that CPs have made in relation to the quality of the service that they want to buy from Openreach. However, when Openreach is continuing to innovate on service quality as described above, it would be wrong to say that in this regard, Openreach has failed to deliver.

B.5. The Quality of Service that consumers receive is not all down to Openreach. There is a clear QOS value chain, and service is a shared responsibility.

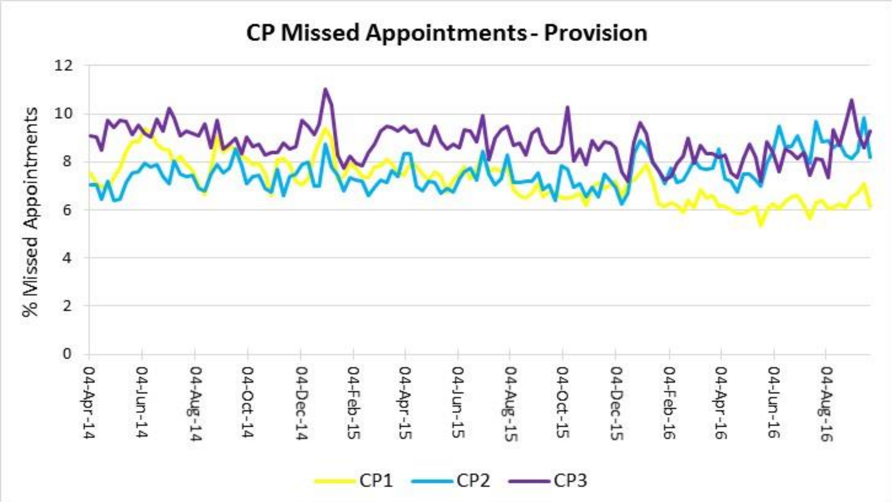
There have been fundamental changes in the industry since the last review and an increasing degree of competition based on Openreach's products and services. However, connectivity to the internet is now a complex area with multiple parts to the overall customer experience – from the customer's environment, to the hub, access network, backhaul network and the internet itself.

Service is not just attributable to Openreach performance. Service is a shared responsibility between CPs and Openreach, and both parties' service performance has an impact on customers. It is misleading of Ofcom to imply that the totality of the end customer service experience is down to Openreach (although clearly that is a crucial input). In fact there are, sometimes multiple, CP interfaces between Openreach and end customer which are also a critical part of the service value chain.

Openreach provides the access and backhaul network CPs depend on, but at the same time CPs are able to differentiate on top of these regulated inputs. This is evidenced by Ofcom's quarterly complaints reports, which show varying level of complaints for providers which use the same inputs from Openreach to serve their customers.

For example, retail BT Consumer Broadband faults recorded as an average over the last five years shows that [✂] of Broadband faults are own customer's domain (i.e. on the customer's side of the network) whilst BT Wholesale and Openreach account for only [✂] of reported BT Consumer Broadband faults. A similar ratio is recorded for BT Business reported broadband faults, with [✂] in the customer's domain and [✂] in the BT Wholesale, or Openreach domain.

Moreover, careful analysis of service across industry reveals that even where the same Openreach product inputs are used, CPs' service level performance can differ quite considerably. This is shown in the graph below.



The graph above shows the level of 'CP missed appointments' between three CPs. These are missed appointments that are the responsibility of the CP to manage and that occur, for example, when the Openreach engineer arrives within the correct slot, but cannot undertake work because the end customer is not in. The graph shows that CP behaviours cause differing performance as to whether customers are in and ready when the Openreach engineer arrives for the agreed appointment slot (using the same input products, processes and information from Openreach). For example CP3 has consistently performed worse than CP1 and CP3.

This demonstrates how service is a shared responsibility between CPs and Openreach – all parties' service performance throughout the value chain have an impact on the service end customers receive.

Service levels for end customers are the result of processes that need to work end-to-end in the industry. It is not just Openreach's responsibility. For example, poor volume forecasting by one downstream CP can result in a capacity constraint in Openreach, which can have knock-on effects across all downstream CPs. It takes well-organised processes and full end-to-end compliance with those processes to achieve consistently good customer outcomes.

Ofcom service interventions that recognise that service is a shared responsibility have tended to work the most effectively. For example, the process for negotiating new SLA/SLG schemes that Ofcom set up in the 2014 FAMR, and that relies on facilitated industry negotiation i.e. places responsibility on industry (including Openreach), rather than just placing all the burden on Openreach, has been very effective at increasing the number of amended schemes along with the speed and quality of the underlying negotiations.

Furthermore, the service experience offered to end customers by CPs can be affected by the choices that CPs make in terms of the propositions they purchase (or don't purchase) from Openreach. Openreach regularly delivers additional product features and enhancements that will improve the service experience available to end customers. However, in order for the benefit of the enhancement to be conferred to the end customer, the CP needs to commit to consuming the Openreach development. It is not uncommon for there to be a (sometimes significant) delay between Openreach making a feature available (whose delivery will be clearly signposted well in advance of launch) and some CPs taking the steps they need to so that they can offer the feature to their customers.

Example developments where there has been a lag between Openreach launch and take-up by some CPs include:

- Working line takeover for WLR and MPF. This is an ordering process designed for use in home-mover scenarios that enables rapid delivery of voice and broadband service without the need for an engineering visit.
- "View my engineer" is a value-added facility that enables end customers to track the progress of the Openreach engineer who is scheduled to undertake work at their property, thereby increasing certainty and reducing CP missed appointments.

Looking forward, to improve end customer outcomes - which has to be Ofcom's objective - all parties in this value chain need to be incentivised to play their part.

We also believe that Ofcom should recognise the impact of its regulatory policies on service outcomes. It is not just a matter of the activities of industry providers freely chosen but of those providers constrained by regulation.

As we have set out above, we believe that at the Openreach level, Ofcom should carry forward the model it adopted in the 2014 FAMR, treating service as a third pillar in reviews alongside price and competition, and taking customers' service needs into account when setting charge controls.

At the downstream retail level, given that the very high proportions of faults set out above occur in the home environment beyond the NTE5 – i.e. outside of the Openreach network, Ofcom should consider options to increase transparency for consumers as to the service levels that they can expect to receive when they take any particular service, and to increase the accountability of the service providers for the services they offer which may well, for example, include their own customer premises equipment, such as broadband routers or set top boxes.

B.6. Looking to the future: BT's commitment to continued service improvement

BT is committed to playing a leading role in transforming the service delivered to end customers, and on 22 September 2015 we announced a series of pledges including those set out below[24]:

[24] BT press release at http://www.btplc.com/News/#/pressreleases/bt-ceo-delivers-vision-for-britain-s-digital-future-1222020

1.	BT stands ready to deliver minimum standard broadband speeds of 5-10Mbps to everyone in the UK, so everyone can use modern digital services if Ofcom and the Government take action to make this commercially viable.
2.	We stand ready to expand the reach of fibre broadband in the UK beyond the current ceiling of 95 per cent in support of any further public funding scheme.
3.	We will take the UK from a superfast nation to an ultrafast one. Our new ultrafast services of 300-500Mbps will reach 10m homes and smaller businesses by the end of 2020. Our ambition is ultimately to extend ultrafast to most of the UK within a decade.
4.	We will raise the bar on service, going beyond today's regulated requirements. We will aim to achieve on-time installations for consumer customers to 95% by 2017.

Alongside these pledges, Openreach has launched a Charter setting out commitments to:

- Aspire to go beyond the UK's 95% target for fibre broadband;
- Work to provide people with the speed they need, including the proposal to give 10 million homes and businesses access to ultrafast broadband by the end of 2020;
- Raise service standards, in particular offering quicker installations and faster repairs, and aim to do much better than the rising minimum service levels (MSLs) already set by Ofcom;
- Continue to be a trusted partner to the CPs that Openreach serves, and demonstrate that it treats them all fairly and equally, including consulting with CPs on offering increased end customer contact with Openreach as well as the opportunity to input to service and product developments through a customer panel;
- Continue to make a difference to society, not only through building Britain's connected future, but also through recruitment, including of former military personnel, apprenticeships and voluntary work; and
- Invest to help sustain Britain's position as a leading digital economy.[25]

On 22 September 2016, Openreach provided an update to the market on the anniversary of the Charter (as described above), with updates including:

- Confirming that delivering excellent service is absolutely at the heart of Openreach's strategy;

[25] The Openreach Charter is available here: http://www.btplc.com/Sharesandperformance/Presentations/Presentations/keycompanyannouncements/downloads/OpenreachCharter.pdf.

- Launch of a new public Openreach service dashboard showing our performance on residential and business products, and providing a higher level of data than ever published before;
- Confirming that we have met our commitment to exceed the copper MSLs imposed by Ofcom and are on track to meet or exceed the higher standards set for this year;
- Noting that we have continued to reduce missed appointment levels and remain on track to hit the 2.5% target by the end of the year;
- Emphasising the importance of fixing Ethernet delivery, and confirming an additional £30 million investment in Ethernet to improve service performance; and
- Confirming the ambition to connect 95% of services on time for residential and small businesses by 2017, with a Q1 2016/17 result of 93.3%.

B.7. Further evidence of improvements in Openreach service performance

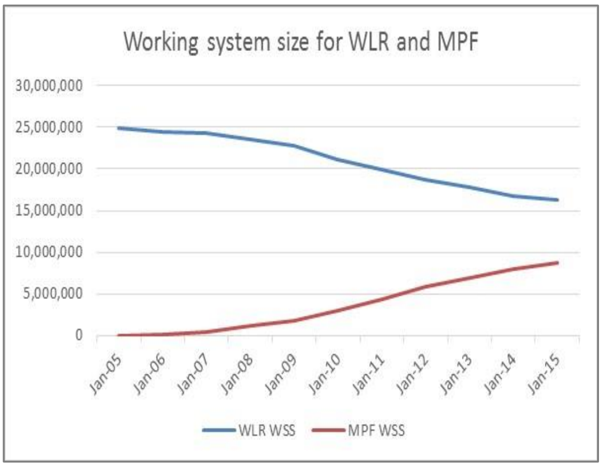
Against a backdrop of ever increasing customer expectations which have not always been met, it is not true that Openreach has failed to provid6bn

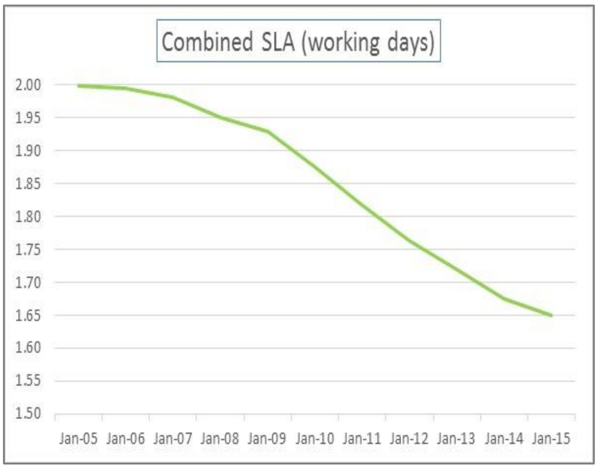
e improving service.

First, faults in the access network have reduced by 16% over the life of Openreach (40% over the last 20 years).

Second, the average repair times in copper products has improved over time. The mass migration of the market from WLR products with working-day-plus-1 repair standards to MPF with next-working-day repair standards has meant that the average contracted time to repair has reduced from 2 days to 1.65 days, a reduction of 17.5%, as shown in the graph below:

Openreach Repair SLA performance:





Third, since Ofcom imposed a balanced approach encompassing Minimum Service Levels, Openreach exceeded all 120 MSLs in 2014/15 and 2015/16, and is currently ahead in 60 out of 60 MSLs YTD in 2016/17[26]:

Ofcom MSL Performance	Year to date MSL Performance (RAG 2016/17 targets)					
	WLR3 FAD	LLU FAD	WLR L2C On Time	LLU MPF L2C On Time	WLR T2R On Time	LLU MPF T2R On Time
Scotland	83.1	89.1	92.8	93.9	80.6	80.9
North East	93.0	94.2	93.7	94.6	80.5	79.5
North West	92.3	93.5	93.1	94.3	81.5	79.5
North Wales & North Midlands	88.0	89.9	91.9	94.1	79.4	78.5
South Wales & South Midlands	83.9	86.8	92.4	94.0	81.8	80.0
Wessex	88.3	91.6	93.2	94.0	82.5	81.4
South East	94.7	95.7	92.6	94.2	81.9	80.5
London	86.5	89.6	93.4	93.7	84.5	81.2
East Anglia	84.0	87.6	92.8	94.2	79.4	79.1
Northern Ireland	99.3	99.9	92.5	92.7	84.4	83.3
UK	88.6	91.3	92.9	94.1	81.3	80.1
2016-17 Target Hits	10	10	10	10	10	10
Targets 2016-17	79.0	79.0	89.0	89.0	77.0	77.0

Openreach's performance has significantly exceeded the MSLs in a large number of cases. For example, in relation to the 'first available date' MSL that requires Openreach to offer provision jobs that need an engineering visit within 12 working days in 77% of cases, Openreach has typically delivered performance greater than 90%.

Fourth, in relation to new sites, since the peak earlier in this fiscal year, Openreach has reduced the tail of sites waiting more than 30 days by more than 60% and is on track to deliver 95% reduction by the end of the fiscal year. Whilst Openreach was slow to recognise the increased trend in the new build housing market and to allocate the resources required to meet the demand, it is now making great progress in this area.

Fifth, in relation to Ethernet, Openreach recognises the continuing frustration of customers in slow delivery of new network for Ethernet connections. However, Openreach has increased its weekly output by over 7% in Q1 2016/17 compared to the same quarter in 2015/16, and is on track for a 14% increase by the end of the year. Openreach has also undertaken a transformation of the Ethernet delivery team, moving to a regional structure with high quality planning, an approach that has been widely supported by industry.

B.8. The Ethernet Story

Openreach is undertaking a number of steps and has made a number of investments to improve Ethernet service delivery including:

- Moving from a national to a regional organisation where each regional team has end to end accountability (a move that has been well received by CPs);
- Rolling out the 'Differentiated order journey' approach in order to set more sensible lead times for complex circuits and thereby improve the certainty of delivery;
- Transforming the approach to planning with much greater emphasis on high quality planning with local accountability;

[26] Table shows performance up to 30 September 2016.

- Using technology in a smarter way so as to assist in delivery (e.g. using microwave as a temporary solution for difficult to access sites); and

- Improving the rigour with which we deal with the more complex orders that often require significant civil engineering activities to be undertaken (e.g. ensuring end to end project management, exploring different route options at the planning stage, utilising technology to simplify delivery where possible).

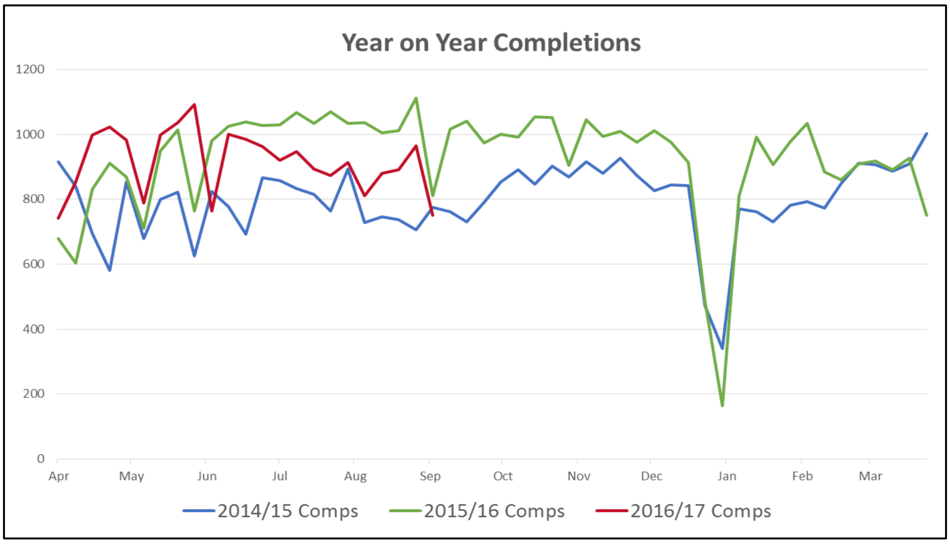
There is much more to do, but progress is being made in relation to Ethernet delivery:

- We have delivered increases to order throughput. The year on year improvement to Ethernet throughput is shown in the graph below. To note, recent throughput levels have reduced somewhat, but this is because we are now clearing out much higher numbers of the more complex aged circuits than was previously the case. Our plan remains to get to above 1200 completions per week by the end of 2016/17;

- The Ethernet workstack is now around 20k, down from 22k last July. This shows that we are starting to successfully clear down the oldest (most complex and challenging) orders in the workstack;

- Improved certainty is being delivered, with performance to initial CDD currently around 83%.

Repair also remains at a very high level of performance – currently around 95%.



Annex C

Openreach consultation with its wholesale customers

- ***"BT does not consult sufficiently with all customers on new investment in the network"*** [27]

- ***"[Several respondents were concerned about] consultation with customers: there is insufficient consultation with all of Openreach's downstream customers, in particular in the early stages of major network investment decisions, leaving the risk that their needs may be neglected"*** [28]

Openreach does not accept that it does not consult sufficiently with its customers, whether at early stages of new investment in the network or subsequently.

Openreach does consult with its customers, frequently and at numerous different levels. These afford CPs the opportunity to engage widely with Openreach, including on commercial and operational issues as well as on significant network investment decisions.

In the following sections of this annex, we provide details of:

C.1. Senior level bi-lateral meetings with large external CPs to develop understanding of their key strategic product, service, commercial and technical requirements;

C.2. The wide variety of regular industry fora, which Openreach either runs or actively participates in, where requirements and/or plans are discussed with CP customers;

C.3. Specific improvement programmes through which Openreach has collaborated with CP customers;

C.4. Additional consultation channels; and

C.5. Specific examples of Openreach's consultation with CP customers in respect of recent network investment decisions: namely (i) ultrafast broadband developments and (ii) Single Order GEA, including how Openreach has taken into account CP requirements in both cases.

C.1. Senior level bi-lateral meetings with large external CPs

In addition to regular working level industry fora and OTA facilitated programmes (as described in more detail in the following sections), Openreach engages with its large external CP customers at a higher level through senior level bi-lateral meetings, to develop a long-term view and understanding of their key strategic product, service, commercial and technical requirements. The following table provides details of engagement with a number of Openreach's large external CP customers.

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27 Para. 1.39, Initial Conclusions.
28 Para. 6.22., Initial Conclusions.

CP	**Meeting type / regularity**	**Description**	**Attendees**
[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]

CP	Meeting type / regularity	Description	Attendees
	[✂]	[✂]	[✂]
[✂]	[✂]		[✂]
[✂]	[✂]	[✂]	[✂]

In addition, there are specific sessions with the senior management of large external CP management to address specific requirements. For example:

- On 6 July 2016, the [✂] executive team was hosted by a senior Openreach team at Adastral to showcase our technology and innovation and discuss how [✂] can use this to better meet the needs of their customers. Other regular sessions include (currently) a daily call to discuss Ethernet service performance that is regularly attended by the Openreach MD of BCD.

- On 23 September 2016, a 'Network and Product futures' session was hosted by Openreach (with CEO present), with a senior [✂] team in attendance.

Similarly, Openreach senior managers have presented to the Federation of Communication Services (FCS), which represent the interests of business customers, on a range of topics including presenting at their annual conference.

C.2. Regular Industry Fora

Openreach engages with its CP customers on a frequent and regular basis at a wide variety of industry fora covering its different products, processes and systems. As is clear from the table below, through these fora, Openreach is in continuous dialogue with its CP customers to consult them on its plans – both for creation and expansion - and to understand their perspectives and needs in respect of new developments, as well as systems and process changes.

In addition to those identified, the need for additional fora can be identified and created as and when required. For example, the Business Market Services Improvements Forum was set up to identify and deliver new services and enhancements tailored to meet the needs of the Business Market. In particular, this was instrumental in redesigning 'in tariff' and bolt-on services for the WLR Premium product.

Similarly, there is a regular monthly industry working group set up to focus on the detailed aspects of product and systems developments for the Single Order GEA product (e.g. ordering systems, migrations processes etc.). This working group also supports interested CPs through the complexities of trials, pilot and launch phases.

Key Industry Fora

Industry Forum	Main purpose and area covered
Copper and Fibre Products Commercial Group (CFPCG)	This forum enables attendees to present changes and collaborate with CPs on all changes affecting CPs. It is well attended and there is good interaction between Openreach and industry with OTA2 chair providing useful debate and change management across a wide range of commercial subjects within the copper and fibre portfolio. This includes new developments, industry asks, including Statement of Requirements (SoR) tracking as well as process improvements and industry queries. There is also a contracts group that sits below the CFPCG wherein Copper and NGA contract changes are negotiated between Openreach and CPs.
Ethernet Process Group (EPG)	This forum provides the opportunity for CP collaboration on new product processes (high level and low level) and changes to existing processes. The focus is on alignment in customer collaboration through the Process Group, Solution Development Forum and Technical collaboration Forum. Key milestones within the Concept 2 Market (C2M) process are discussed to ensure transparency of high level Process design reviews, solution design walkthroughs and low level process design and to ensure the optimum sequencing of this customer engagement.
Ethernet Solution Development Forum (SDF)	The SDF aims to be the industry acknowledged body responsible for the development of straightforward, fit for purpose information technology solutions which enable our customers to easily consume Ethernet Services products. It aims to optimise the IT solutions to improve the end-to-end process performance for the Openreach Ethernet Service products to the benefit of end users, customers and Openreach. It is a future looking body that seeks to understand the current and future Information Technology demands of the Ethernet Services products and drive process improvements.
Ethernet Services IT Technical Communication Forum (TCF)	This forum aims to be the industry acknowledged body responsible for the deployment of a change, demonstrating end to end improvements to the user. The TCF is within the formal calendar of delivery and is the forum at which Openreach demonstrates live system updates/changes and gives the CP the awareness of the impact of change.
Ethernet Service Forum	A key area of focus and improvement within the Service forum is ensuring that Openreach is taking account of impacts to our customer when we drive and implement any change initiatives.
Ethernet Products Commercial Group (EPCG)	This forum shares news on the Ethernet market and any specific market development initiatives. It also provides a platform to discuss and optimise any future opportunities. The purpose of the Ethernet Product Commercial Group is to introduce and discuss new products

Industry Forum	Main purpose and area covered
	and other process changes to the Openreach portfolio that CPs should consider as new investment / sales opportunities or value added services additional to base portfolio. It also considers other changes that have a commercial or contractual effect (for example SLAs/SLGs, terms of consent, etc.) There is also a contracts group that sits below the EPCG wherein Ethernet contract changes are negotiated between Openreach and CPs.
Passives Industry Working Group	This forum works with CPs to establish industry best practice around infrastructure provision to ensure H&S standards are met whilst minimising any negative customer and environmental impacts. The forum deals with CP issues associated with the consumption and use of the Openreach PIA and SLU products and the procedures and engineering principles which support them.
Federation of Communication Services	The FCS is an organisation which represents the communications interests of the smaller CPs, mainly WLR focused, and Third Party Integrators (TPIs). It provides a very useful interface for Openreach to share our plans and gauge views from this community and to more fully understand how what we do impacts on our smaller customers in the marketplace. It also provides the forum to gain insight into the requirements for those operating in this marketplace.
Number Portability group	This group is an Industry body (chaired by OTA2) that meets to discuss the industry-wide operating model for Number Portability. It has been recently proposed to create a Number Portability 'Executive Steering Group' to develop a more strategic industry approach.
Consumer Switching Industry Forum	Industry body (chaired by OTA2) that focuses on improving a number of areas related to consumer switching including Supplier of Last Resort (SOLR) process, reducing erroneous landline transfers and ensuring seamless switching using the new NOT process with minimal downtime for end customers.
OTA2 Exec	The OTA2 exec forum offers CPs opportunities to input and update on key shared programmes e.g. Consumer Switching, SLA/SLG, Ethernet roadmap. It works well to flag key important issues and covers all products and services.
Customer Service Forum (SMF)	This forum enables Industry engagement for in-life Copper and NGA products/service change, owned by Openreach Service Management and covers the majority of their work. This forum is chaired by the OTA2.

C.3. Consultation on improvement programmes

Openreach also collaborates with its CP customers via the OTA2 to facilitate change management and progression on key improvement programmes. For example:

- ***Openreach Service Level Agreement / Service Level Guarantee (SLA/SLG) negotiations***

  OTA2 has facilitated a programme to negotiate Copper and NGA Openreach SLA/SLG schemes, whether amending existing schemes or creating new schemes. This has involved high levels of Openreach participation and leadership and has been widely seen as a success by participating CPs. The construct, to promote Openreach and CPs to negotiate new SLAs/SLGs as well as improvements to the existing schemes, was put forward by Ofcom as part of the last Fixed Access Market Review and given the success, the same process is being adopted for Ethernet SLA/SLG schemes.

- ***Openreach Matter Beyond Our Reasonable Control (MBORC) improvements***

  OTA2 has facilitated a programme in which the Openreach MBORC processes for Copper and Next Generation Access products were reviewed and improved, including in relation to the transparency offered. This has been widely considered to have been a success by those who participated.

C.4. Additional communication channels

Openreach is keen to ensure transparency of current activities and we hold a number of regular calls to ensure CPs are updated and have the opportunity to ask questions of senior management.

C.4.1 Industry calls (usually monthly)

Name	Attendees	Purpose
CEO call	Openreach: CEO and other senior managers. CPs: Current invite list of 775 CP representatives. Typically around 60-70 attendees per call.	Discussion on strategic commercial and operational issues.
Ethernet call	Openreach: MD of BCD and members of senior team. CPs: Current invite list of 600 Ethernet CP representatives. Typically around 70 attendees per call.	Focus on Ethernet operational performance and related Openreach strategy.
Service calls	Openreach: Hosted by relevant MD with members of senior team. CPs: All CPs invited. Typically 80 attendees.	General view on service performance.

C.4.2 Proactive communications

Openreach issues the following direct communications:

- Alerts for service affecting issues;
- System issues;
- General service updates (from Roddy Thomson, MD of Service Delivery and Openreach COO);
- MBORC announcements; and
- Specific notices (e.g. relating to senior appointments etc).

C.4.3 Online communications

As part of its transparency agenda, Openreach publishes an increasing amount of information on the portal service pages, including:

- EMP notifications for forthcoming product developments (EIPs);
- Daily heat maps showing performance for repair and provision;
- Weekly workstack overviews, with 4-week outlook;
- Weekly best time to call the service centres;

- MBORC packs;
- Service-affecting incident updates;
- Monthly appointed lead times; and
- Product Development updates, briefings and communications.

It should be noted that the level of information and engagement at the industry level has received some very good feedback via bi-lateral feedback and via the industry–wide Openreach chaired service calls. Such feedback is from a wide spectrum of customers including BT's downstream divisions, Sky, Vodafone and TalkTalk.

C.5. Specific examples of Openreach's consultation with CP customers in respect of recent network investment decisions

Openreach continually seeks to find new opportunities to innovate and enhance its network capabilities, having regard to the potential of new innovative technology solutions, experience and learning from other countries and to EU infrastructure goals for inspiration to define its strategy. This includes the need to react to competitive pressure from mobile and cable networks which similarly are ever advancing towards newer and higher performing technological advances.

The following identifies two examples where Openreach has demonstrated the need to innovate in collaboration with its customers. Without such engagement, Openreach would not be able to proceed with the trial or launch of these developments.

C.5.1 Ultrafast broadband developments (G.Fast)

- ***"We believe that when BT Group has made certain strategic decisions related to the network, Openreach has not consulted in a sufficient, timely or transparent manner with all its downstream customers. For example, BT Group's intention to roll out ultrafast broadband was first announced in January 2015 (including the technology choice and specific deployment targets), before wider consultation with industry."***[29]

This was not the case. An ambition for Ultrafast was announced following consultation with key stakeholders including CPs, politicians and Ofcom. Technology choices and targets were then discussed with CPs and other stakeholders ahead of trials.

Following the January 2015 'ambition' announcement, there was a series of papers, presentations and consultation with CPs, all of which gave CPs the opportunity to engage and make representations, and monthly updates to the CFPCG including:

At the **February CFPCG** we proposed that:

- The trial would pass approx. 4k homes, split across the two locations, and that we aim for connections from as many CPs as possible.

[29] Para. 6.33, Initial Conclusions.

- The trial service would be delivered using 1: DP based G.fast and 2:NGA2 FOD.
- Both services would be provided over dedicated paths to the customer premises, with an engineer install required for both NGA2 G.fast and NGA2 FOD.
- The services would terminate on an Openreach supplied CPE, with the option for CPs to provide their own routers.
- The trial would most likely start during summer 2015 and run for several quarters. The service would be delivered over dedicated infrastructure, with dedicated head ends, and cablelinks in the local exchange. The customers would need to keep their existing WLR, MPF or FTTC service.
- Although customers would keep their existing WLR, MPF or FTTC service for voice and some data, we asked CPs to encourage customers to use the NGA2 services for their data as much as possible during the trial.
- It was our expectation that at the end of the trial, the service would be stopped and customers will be expected to revert back to their existing service.

April 2015 – Proposals made to CFPCG, NICC, and Ofcom to amend the ANFP and add G.fast to the UK copper network. Close collaboration with customers being made to derive solution – the April CP update included our proposals for:

- Creating a dedicated monthly NGA 2.0 working group to discuss and share information with interested CPs.
- Monthly Q&A call with CPs following on from the CFPCG.
- Running an Open day during the summer to share the technical detail of G.fast and view the equipment and technology.
- Regular bilateral calls with CPs interested in participating in the trial.
- Providing a summarised update at each CFPCG.

Following this extensive consultation with CPs, Openreach took on board the feedback received as it prepared to commence with a programme of field trials. Key milestones in the trial process include:

- **August 2015 –** First pilot started in Huntingdon with customers
- **September 2015** – Industry Consultation held to define product description for launch
- **October 2015 –** Second pilot started in Gosforth with customers
- **November 2015 –** Third pilot started in Swansea

The following provides various examples of the changes that Openreach has made to the G.fast proposals as a result of all of this CP consultation. Openreach has:

- Developed 2 types of Managed Install; Premium and Standard as a result of CP feedback, and also developed the PCP only task type as part of the minimum feature set;

- Developed the concept of Harmonised Repair for G.fast;

- Introduced an 'in tariff' speed fault criteria on G.fast;

- Developed two hour appointment slots and reduced minimum lead time logic;

- Introduced the ability to reserve an all-day appointment slot;

- Introduced grace periods to allow end customers some flexibility;

- Configured headline speeds at values which allow CP headline marketing speed values; and

- Made enhancements to the daily 'value-add DSL data file' to enable improved management information for CPs.

This demonstrates that Openreach takes the feedback from CPs very seriously and is keen to develop its plans, in liaison with its CP customers, so that we can collectively make our products more attractive to customers so that we can move more swiftly towards trial and launch.

Openreach is also being very open and transparent in the way in which it provides up to date information to all interested parties. For example, logging in to the CFPCG collaboration area provides access to all CFPCG material since late 2014. The access is obtained via the 'My dashboard' link in the centre of the following webpage:

https://www.openreach.co.uk/orpg/home/products/industryforums/copperandfibreproductscommercialgroup/copperandfibreproductscommercialgroup.do

Also all NGA2 EIP communications shared with CPs are available at (external link):

https://www.openreach.co.uk/orpg/home/updates/eipcommunications/eipcommunications.do

In summary, Openreach does not accept that it failed to engage with CPs in the early stages of this network investment decision. To the contrary, from the outset, when it identified to other CPs that it believed that G.fast is the most appropriate next step on the fibre journey, it has engaged extensively and openly to develop the proposition. To be clear, and having heard the feedback from CPs, Openreach still believes that G.fast is the technology choice that will enable the most benefits to be brought to the greatest number of consumers in the shortest possible time. However Openreach is still at the trial and testing stage and the final decision to adopt G.fast has not yet been taken.

C.5.2 Single Order GEA (all IP)

Single Order GEA (SOGEA) represents a significant new strategic approach to selling GEA. In essence, this a significant technical evolution of how voice and broadband services are delivered to consumers in the UK. At present, the voice telephony service is delivered separately to the broadband service via copper wires from the local exchange to the consumers premises. SOGEA enables the voice service to be carried over the fibre broadband connection.

The new GEA-FTTC product that will be self-contained and include the copper bearer, conveniently purchased through a single order, will improve simplicity, cost and customer experience.

We have consulted with industry at all stages of the development and continue to do so with regular bi monthly updates also attended by the OTA. This is supported by additional updates at other dedicated forums as appropriate (e.g. process group), plus bi-lateral reviews with CPs. A standalone SOGEA industry working group was established in April 2015.

Through the series of industry engagements outlined below, the SOGEA proposal was developed to address CP Customer needs. For example:

- Parallel running proposal: Openreach proposed, where a customer was moving to a SOGEA service, to enable the 'legacy' WLR or MPF service to work for up to 7 days post provision of the SOGEA (IP) service so there was no break in voice service. CP's feedback via CFPCG and our monthly industry forums was that this would be too complicated and have commercial and contractual issues so we amended the proposal so it was same CP only, so if a customer was changing CP then there would be no parallel running, straight a standard cease and provide, but if they were staying with the same CP then we would offer parallel running. This change was made circa 12 months ago.

- Following CP feedback at the July SDF from Sky, Openreach delayed the build of the SOGEA story ORCE-77920 (Daily DSL Report) from R3300 to R3450 to provide CPs with more opportunity to consume the additional data in the report.

- Labelling on SSFPs – feedback from a number of CPs asked for labelling of the sockets on the new NTE5c faceplate and Openreach is in the process of finalising this with the supplier.

- The SOGEA Voice reinjection solution uses the tool-less faceplates on the new NTE5c. This avoids the need to send an engineer to rectify alternative complex home wiring or external isolation solutions where a SOGEA line is being reverse migrated to copper. Openreach developed this solution based on a requirement from Sky.

C.5.2.1 Chronology of key SOGEA engagement dates and activities

Date	Consultation and Industry Reviews and Communications
July 2014	SOGEA Consultation document issued comprising 14 questions seeking CP views on a wide range of technical aspects of the proposal
Sep 2014	SOGEA Consultation responses from CPs
Jan 12th 2015	Updated product proposal published + feedback requested
Jan 14th 2015	SOGEA Update at CFPCG – announce publication of updated proposal
Feb 11th 2015	SOGEA Update at CFPCG – Updated product proposal walkthrough and questions
Feb 27th 2015	SOGEA CP Forum – e2e process, delivery plan and Voice re-injection proposals
March 11th 2015	SOGEA update at CFPCG covering VRI inc. request for feedback, parallel running and trial plans
April 15th 2015	SOGEA Update at CFPCG – Dialogue Services and industry feedback on VRI
April 22nd 2015	**SOGEA Industry Working group established** – this includes all major customers. Details may be found at: https://www.openreach.co.uk/orpg/customerzone/collaboration
May 13th 2015	SOGEA update at CFPCG covering jumper recovery and parallel running
May 26th 2015	SOGEA Industry Working group covering NTE Labelling and Home Wiring, Number Transfer, Road Map
June 10th 2015	SOGEA update at CFPCG – NTE labelling, home wiring, parallel running, number transfer, roadmap
June 17th 2015	SOGEA Industry Working Group covering Service Test, Reactive Fault Journey, L2C, Parallel Running
July 15th 2015	SOGEA update at CFPCG – parallel running updated proposal based on CP feedback

Aug 19th 2015	SOGEA Industry Working Group covering End-to-End L2C Engineering Journey and Voice Reinjection
Sep 15th 2015	SOGEA update at CFPCG – general update
Sep 16th 2015	SOGEA Industry Working Group covering 2nd stage fault management, consumer switching, NTE 5c faceplate labelling
Sep 22nd 2015	SOGEA Update at FCS covering general update and NTE 5c faceplate labelling
Sep 23rd 2015	SOGEA Update at CFPPG covering NTE 5c faceplate labelling
Oct 21st 2015	SOGEA update at CFPCG including SoR8442
Oct 22nd 2015	SOGEA Industry Working Group covering multiple lines, performance management, NTE5 Detection

It can be seen from the above that the engagement between Openreach and the rest of industry, which started at a high level, has now developed to the point where there is very close collaboration on very specific points of detail which are important for all CPs. Such attention to details is vital to resolve, in order for SOGEA to move to successful large scale trial and launch.

Annex D

Alleged persistent problems of discrimination – Compliance with the Undertakings

D.1. Introduction and Summary

Ofcom has stated that BT's compliance with its obligations set out in the Undertakings is a matter of concern.

"Since the Undertakings were put in place, BT has breached them in a non-trivial manner, 59 times. Over the course of the last ten years we would have expected to see a steady decline in the number of breaches, but this has not been the case."[30]

The inference is that it is evidence that Openreach does not have the right internal culture to really treat all customers equally, and that Openreach retains an underlying incentive to discriminate against its downstream competitors. Ofcom indicates that this is a concern which would be addressed by effecting greater functional separation. BT understands Ofcom's position in this regard to be that if Openreach people were employees of a separate subsidiary company, they would have a more independent mind-set and would not have an incentive to discriminate against competitors and hence that this level of breaches would not occur.

BT disagrees. As this analysis will show, a significant proportion of the material breaches did not even involve Openreach. Some of those which did were transitional matters – for example, failure to meet milestone dates for systems separation. As all milestone commitments have been met, these cannot recur, and some were just simple mistakes of the sort that will occur in any people based organisation, regardless of the institutional structure around them. The number of breaches that are related to Openreach culture is extremely low indeed – and they do not suggest any sort of endemic cultural failings. In short, BT's overall track record of compliance does not evidence an ongoing problem of discrimination due to Openreach discriminating in favour of BT's downstream businesses, or that BT's integrated structure has been impeding competition. Similarly, there is nothing that suggests that if the counterfactual had been different, i.e. if Openreach had been a structurally separate company, the track record of compliance would have been any different.

As Ofcom has recognised,[31] the Undertakings to which BT committed in 2005 had two central pillars which have constrained BT's incentives and its ability to engage in conduct which could have the effect of restricting competition:

- The creation of Openreach as a functionally separate part of BT Group with a culture and management incentives designed to ensure that it serves all customers equally; and
- A requirement that where Openreach supplies a product to other parts of BT, it must supply an identical product to BT's competitors. This requirement is called Equivalence of Inputs (EoI). This is the most rigorous form of non-discrimination obligation there is: it prevents Openreach providing downstream BT with better service, advance

[30] Para. 6.15, Initial Conclusions.
[31] Para. 1.12, July Consultation.

notification of new products, special offers etc., or providing information or access to systems other CPs do not have access to.

Ofcom accepts that "*these interventions have broadly addressed the concerns we identified in 2005*", but suggest that the underlying incentive to discriminate against competitors remains. BT believes that even with the current structure, there are no such incentives and the review of the breaches to date would suggest that is the case.

By way of backdrop, BT would also point out that it has rolled-out significant compliance programmes. It has undertaken, and continues to undertake, extensive training for Openreach and BT people. For example, all new joiners must undertake mandatory training on the Undertakings and pass an on-line test at the end in order to successfully complete the training. It has spent over £1bn on systems separation and implementing various control systems and safeguards to ensure compliance with the Undertakings. There can be no question that BT takes its responsibilities very seriously. However, given the huge scale of BT's operations, the significant numbers of employees and the intrinsically complex and detailed nature of the Undertakings, it is perhaps inevitable that, despite all these efforts, a small number of breaches, of the type described later in this section, will occasionally occur.[32] There is no evidence that there are or have been endemic or systematic failings, or cultural and behavioural failings that would justify the imposition of a more severe form of functional separation.

Indeed, in this regard, BT also cites the EAB's Response to the Ofcom Discussion Document, in which it commented that,

- *"The small number of formal complaints and the non-Undertakings nature of many of the concerns that CPs now raise suggest that, in the main, the Undertakings have been executed as agreed."*[33]

The EAB also commented that it is not always clear how the rules apply to the products, processes and systems used by BT today.[34]

It is also important to note that the vast majority of the 59 breaches reported were self-identified and reported within BT. This represents a strong and healthy culture of self-reporting of breaches[35]. Whenever a breach is identified, BT acts quickly to remedy the breach, to address root causes, and to identify future learning opportunities. Its performance on remedying breaches is monitored by the EAB.

Finally in this regard, it is noteworthy that in the ten years since their introduction, there has been no finding that a breach of the Undertakings by BT has caused any CP to incur losses

32 This can be exacerbated by the fact that the majority of individuals at BT would not have been at BT when the Undertakings were first introduced.

33 Equality of Access Board Response to Digital Communications Review – Oct 2017, para 9.

34 The EAB noted that, "[T]en years on it can sometimes be difficult to interpret the Undertakings in a world where the environment and technology has changed, and where the original intent is sometimes disputed." The EAB further suggested that, "in an increasingly fast-paced and convergent technology world, there would ideally be a clearer and more future-proof definition of the portfolio against which EoI applies, for example whether it should apply just to SMP products offered by Openreach or all products offered by Openreach."

35 BT self-declared more than half of all the breaches over the last 10 years, with the remainder arising from complaints raised by CPs or by investigations initiated by the EAB itself. Ibid, at 34.

that required financial recompense from BT, or that a breach damaged their position in the marketplace. Similarly, Ofcom has never once needed to exercise its powers to take enforcement action under the Enterprise Act 2003[36].

D.2. The breach process: identifying non-trivial breaches

Where potential breaches are identified within BT, they are logged and entered into BT's Breach Process. They are then investigated by the relevant compliance teams who produce a report for review by the Breaches Review Group ("BRG") which will contain a recommendation as to whether there has been a breach and if so, if the breach is considered to be trivial or non-trivial (i.e. material). The two decision makers on the BRG (senior regulatory and legal individuals holding delegated authority from BT's Operating Committee) determine the matter and report on it accordingly to BT's Operating Committee (reports are provided quarterly). If the finding is that it is a breach, the matter is then referred to the Equality of Access Office (EAO) which undertakes its own assessment before presenting its recommendation to the EAB. The recommendation of the EAO may or may not agree with the BT decision. The EAB then reaches its decision on the matter.

The EAO can also itself investigate cases brought to its attention directly[37]. If this happens, BT is provided with an opportunity to comment and make representations to the EAO on the EAO's report.

Section 10.27.2 of the Undertakings requires the Equality of Access Board (EAB) to include in its annual report to Ofcom an account of:

"instances where a material breach of these Undertakings has been identified, and any steps taken as a consequence of such material breach and including a summary of non-material breaches for which purposes the EAB shall treat as 'material', any breaches notified to Ofcom as 'non-trivial'. . .".

With regard to categorisation of breaches, the Undertakings do not specify when a failure to adhere to an Undertakings commitment should be categorised as 'non-trivial' breach and there is no further guidance in the Undertakings about the definition of non-trivial breaches. The EAB has not defined a set of rigid criteria for categorising the triviality of breaches.

In the light of past experience, in July 2012, BT provided an explanation to the EAB of the factors which are taken into account in its categorisation of breaches, which are assessed on a case-by-case basis. These are as shown below:

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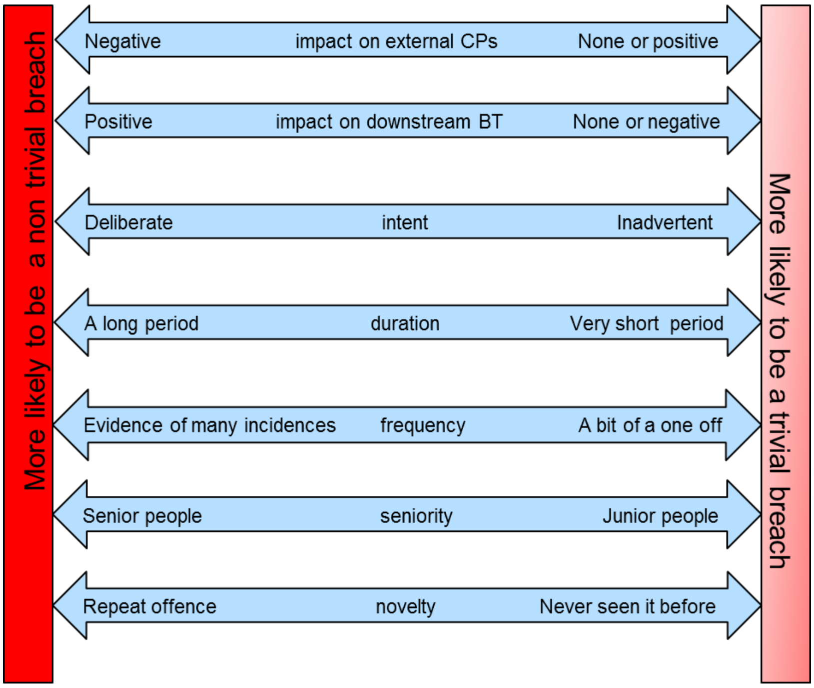
36 On only one occasion in 10 years has Ofcom had to make a compliance direction using the process set out in the Undertakings – this was in relation to a delay of a few months in the delivery of a particular systems separation milestone.

37 The majority of suspected breaches are self-reported by BT people to the EAO by BT, others are reported by external CPs.



In summary, assessment depends upon:

- there was an adverse impact on CPs or a beneficial impact for downstream BT;
- the breach was intentional;
- the breach was of a long duration;
- the non-compliant behaviour had been frequent;
- senior BT people had been involved;
- whether the behaviour had occurred in the past.[38]

BT has accepted that each case must be considered "in the round". It may be, for example, that the extent to which just one factor applies is so serious that - regardless of other mitigating factors - it makes the case non-trivial. Alternatively, it may be the case that a larger number of factors apply (each to a lesser extent), so that overall the matter then becomes non-trivial.

As indicated above, the EAB may categorise a breach as non-trivial even if BT considers otherwise.

[38] The factor described by BT as "novelty" is now regarded by the EAB as "repetition".

D.3. A synopsis of the 59 breaches

BT has conducted an analysis of the 59 breaches which occurred over the ten year period from 2006/7 to 2015/16, putting each breach into one of four categories:

Type of Breach	Number / percentage of total
Systems implementation	10 / 17%
Systems access	6 / 10%
Information sharing	13/ 22%
Equality of Inputs	30 / 51%

Systems implementation breaches occurred when BT failed to implement systems changes by the deadline in the Undertakings.

The Undertakings set out a challenging set of commitments requiring BT to separate the vast majority of its Operating Support Systems and Management Information Systems so that those used by Openreach would be separate from those used by other parts of BT. The purpose of systems separation is to ensure that employees working for downstream BT cannot, save where limited exceptions necessarily apply, have access to information about Openreach's commercially sensitive information. This proved to be an exceptionally challenging programme costing more, and taking longer, than had been anticipated when the Undertakings were signed. As a result, a number of milestone dates were missed (e.g. to migrate records to a new physically separate system). Similarly, there were instances where, due to the complexity of the systems used, an oversight led to certain systems being hosted on a platform shared by Openreach and downstream BT (even ones with robust user controls) rather than a physically separate platform.

Five of the Non-Trivial systems implementation breaches were in 2009/10 and were all a result of systems separation milestones in the year that were not met on time. Clearly, these were one-off time-bound breaches. They will not occur again, and as all of the milestone commitments have been achieved, breaches of this type cannot occur again.

The fact that there was late delivery of various elements of systems separation is not evidence of an unwillingness to progress with the systems separation programme. Rather, it was a consequence of systems separation being far more complex and costly than had been anticipated at the time of the Undertakings. Indeed, to date, BT has spent in the region of £1bn on systems separation.

Systems access breaches arose when individuals had access to systems which gave them access to information that they should not have been able to see. The concern is that as a result of such access, they could have misused the information they may have seen to the advantage of downstream BT (regardless of whether or not it could be shown in the specific case that the individuals with inappropriate access had actually misused the access in practice). Three of the six breaches occurred in 2011/12, i.e. soon after a number of the big systems separations milestones had been delivered. Since then, there has only been three cases in four years. Furthermore, of the six such breaches, only three involved Openreach giving access to other parts of BT which would have enabled them to access Openreach systems inappropriately.

Information sharing obligations are ongoing commitments (over and above the systems separation commitments). They do not just apply to commercially sensitive information held by Openreach. They also apply to prohibit BT Wholesale from sharing certain types of commercially sensitive information with BT's downstream lines of business.

This type of breach has occurred when Commercial Information (CI)[39] belonging to Openreach or BT Wholesale[40] was made available to a downstream BT division where that information had not been made available to external Communications Providers; or where commercially confidential information[41] belonging to an Openreach customer or a BT Wholesale customer was made available to a downstream BT division without the customer's consent.

Non-trivial breaches of this type have averaged just over one each year. This is in the context of a company employing around 100,000 people and millions of emails sent and received each year. Of the 13 breaches, only six involved sharing its information inappropriately with downstream BT.

EoI (Equality of Inputs) breaches are the most common. The EoI obligation requires BT to adhere to the most strict and absolute form of non-discrimination. It requires that where Openreach or BT Wholesale provides an EoI product to its downstream businesses, it must supply that product to all other CPs on the same timescales, terms and conditions (including price and service levels) by means of the same systems and processes as are used to supply downstream BT. EoI also requires the provision of the same Commercial Information about those products, services systems and processes to all CPs (including downstream BT). In essence, an EoI breach means that the downstream access product supplied by BT has not used exactly the same upstream inputs as the downstream product supplied by competitors.

With 30 breaches over approximately 10 years, this means that there has been an average of just over three Non-Trivial breaches each year.

Of the 30 EOI breaches, as shown in the Table at the end of this annex, only 18 involved Openreach. Further analysis shows that six of those 18 were caused by peripheral "tail" issues being discovered after Openreach's main products (and the processes associated with them) had been amended so that they could be supplied on an EOI basis. These were generally minor issues that came to light over a relatively short period of time following the move to EOI. The remaining 12 breaches involving Openreach were largely due to mistakes due to human error. A significant proportion of them were of short duration or involved "low volumes". None of the breaches had a material competitive impact, and no CPs have claimed that they have suffered losses as a result of them. Rather, competition has grown strongly over the period.

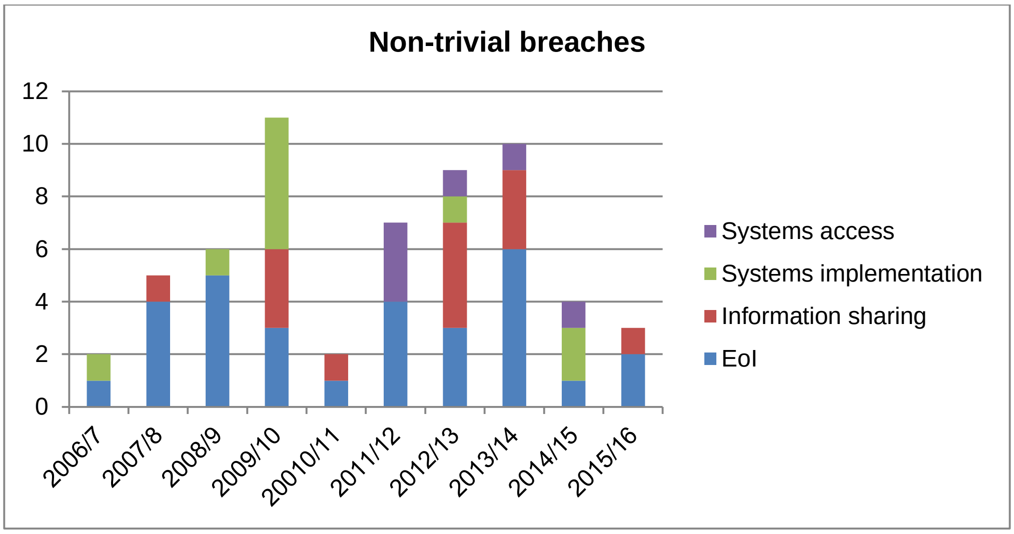
39 CI is defined in the Undertakings as information of a commercially confidential nature relating to SMP products or other products to which EoI applies, and which relates to any or all of the following: product development; pricing; marketing strategy and intelligence; product launch dates; cost; projected sales volumes; or network coverage and capabilities.

40 Now "Wholesale and Ventures".

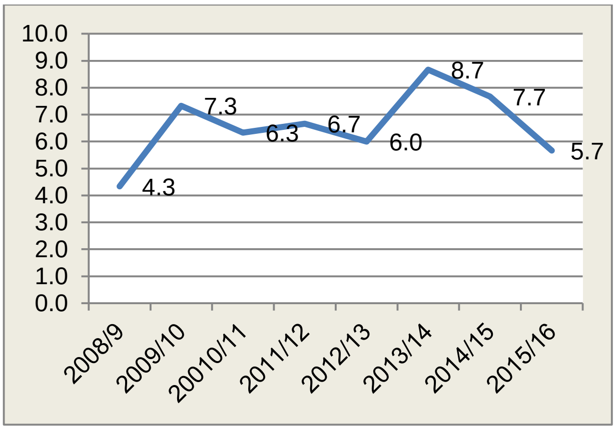
41 Referred to in the Undertakings as Customer Confidential Information (CCI).

D.4. Trends over time

The number of annual Non-Trivial breaches has varied between two and thirteen. Whilst there has been no clear trend in the number of breaches over the period, when considering the regulatory framework for the future, it is noteworthy that the numbers of Non-Trivial breaches found in 2014/15 and 2015/16 were lower than the average of just under six each year.



Similarly, the three-year moving average of number of non-trivial breaches is showing steady decline in the last few years.



D.5. Individual breaches over the last 3 years

To illustrate the extent of compliance, BT sets out below brief descriptions of all 17 non-trivial breaches which occurred over the period from 2013/14 to 2015/16.

D.5.1 Two systems implementation breaches, neither of which originated in Openreach

These two "one-off" breaches are related. BT has an Undertakings obligation to keep Openreach Operational Support systems (OSS) physically separate from those used by the rest of BT. BT was using enterprise cloud computing for downstream BT, on the basis that it is widely used by industry, offers a clearly secure data environment and delivers more flexibility and lower costs to our customers. Against this background there were two concurrent breaches associated with Openreach OSS being put onto BT Enterprise Cloud (BTEC) in error. Both breaches were remedied by the relevant systems being moved back to physically separate Openreach hardware.

1. The first case involved systems which, before migration, were wrongly classified on the System Separation Masterlist as being virtually separated (Level 2 separation), when in fact they were already on physically separate hardware (Level 3) at Openreach-specific Virtual Data Centres. The systems in question were required to be Level 3 separated. As a result of being wrongly classified as being Level 2 separated, moving these systems to the BTEC effectively changed their separation status from Level 3 back to Level 2, against the direction intended by the Undertakings.

2. The second breach arose because three systems new to Openreach had been put straight onto BTEC. This happened because existing systems with the same name and broadly the same functionality for BT Group were virtually separated (Level 2) and it was wrongly assumed that deploying new Openreach-only versions on BTEC would therefore be compliant.

D.5.2 Four breaches involving inappropriate information sharing – of which only one was Openreach originated.

D5.2.1 Openreach originated

1. Openreach information, some of which was Commercial Information was published on an internal wiki open to all BT people. The information was about product or service developments that would have been shared with industry via Openreach’s formal briefing process but contained additional information, such as systems development impacts and costs. This could potentially have given downstream BT a better insight into Openreach’s processes and approach to product development.

D.5.2.2Non-Openreach originated

1. There was a programme to review and monitor the governance of major contracts in Global Services. Two people in the team undertaking this work were inappropriately given Annex 2 status so that as part of a Group-sponsored project they could review BT Wholesale contracts, which involved access to BT Wholesale Customer Confidential Information. In addition, this team had also been carrying out billing administration in relation to a BT Wholesale contract with another CP, breaching the Undertakings by accessing BT Wholesale Customer Confidential Information. The individual performing this role did not have Annex 2 status and was not in a role where Annex 2 would have been appropriate.

2. A BT Wholesale Secure Data Exchange and Distribution System is available to all CPs and gives them access to information about their broadband customers. Following systems changes, CPs were able to access other CPs’ customer information (i.e. Customer Confidential Information). The breach lasted for 24 days and was remedied once identified by Plusnet. In total, 11 CPs, including Plusnet and BT Global Services, accessed other CPs’ data. When the breach was discovered all CPs were notified and

requested to destroy any inappropriately obtained data. All CPs confirmed that they had done so. This was also reported the case to the Information Commissioner's Office as a breach of the Data Protection Act and to Ofcom.

3. The Wholesale Customer Reporting (WCR) system is used by CPs to access information about their Broadband customers. A software upgrade on WCR carried out by TSO on behalf of BT Wholesale was not tested properly before being released into service. As a result, CPs were potentially able to access information about broadband customers of other CPs and two CPs were able to access information relating to other CPs. The first, an external CP, discovered this and promptly reported it to BT Wholesale. The issue was remedied immediately. Plusnet also accessed the system but had not opened the report by the time BT Wholesale contacted them and Plusnet deleted the unopened report. BT regarded this first and foremost as a data protection breach and reported the matter to the Information Commissioner and Ofcom.

D.5.3 Two breaches involving prohibited systems access – of which only one was Openreach originated

D.5.3.1Openreach originated.

1. An Openreach SharePoint site containing a variety of reports relating to Openreach provision and repair and had access restricted to Openreach and certain Annex 2 individuals. A total of three documents were found to have incorrect user access controls which therefore allowed potential access by 59 people not authorised to see Openreach Commercial Information. The breach was remedied by amending the access controls. Access to the site and the specific documents was analysed and no evidence of inappropriate access was found. The majority of the 59 people worked in Group and TSO and none worked in downstream customer-facing businesses.

D.5.3.2Non-Openreach related.

2. The Ethernet Job Control is an application in the "RABiT" operational support system (OSS). It is used by TSO, Global Services and BT Business to manage Ethernet orders and is logically separated to protect the BT Wholesale Customer Commercial Information that it contains. The breach was caused when 18 TSO people who were legitimately able to access the BT Wholesale data were transferred to Global Services and then subsequently to BT Business, without their access to the BT Wholesale part of system being revoked.

D.5.4 Nine breaches of EoI – of which only 4 originated in Openreach.

D.5.4.1Openreach originated

1. An Openreach Wayleaves team was applying for planning consents for BT Wholesale radio-based services. This entailed Openreach providing a service to another part of BT that it does not provide to other CPs, and was therefore, technically, a breach of EoI. The "service", which consisted of applying for wayleaves, was not a service that any other CP had ever asked BT to provide for them, and is far more in the nature of a property management service than a telecoms service. This was a "one-off" organisational breach that could not be repeated, arising from different interpretations of the Undertakings requirements.

2. The Openreach Director Services Office (DSO) was put in place following a previous breach of the Undertakings so that Openreach could step outside of normal processes on escalations by any CP that meet very specific criteria. In August 2013, members of the DSO reported what they believed to be non-equivalent service being given to two CPs (one external and the other BT Retail). These CPs' DSO cases were allocated to a case handler more speedily than those of other CPs and, in the case of the external CP, to a single point of contact. The processes were changed to ensure all CPs received an equivalent service.

3. Openreach launched a Business Connections product in April 2013. Due to human error, Openreach incorrectly stated on its website that Business Connections Switch and Data products were not available in Northern Ireland. The Undertakings require Openreach products to be available in Northern Ireland. The Openreach website was updated to correct the error. Unfortunately, the error was compounded due to the incorrect information being put onto the website.

4. Openreach conducted a trial with 5 major MPF CPs, one of which was BT Wholesale, to provide an on-line e-Chat facility in August 2010. Openreach did not stop the service and the original trial participants have been able to continue to use this channel to communicate with their Openreach support teams. The 5 CPs represent 99.8% of the current MPF working system size, but nevertheless this meant that the service was not made available to a further 97 MPF CPs who account for the remaining 0.2% system size. Adverse impacts will have been low as handling times and on average provision and repair enquiries conducted via e-Chat were only quicker by 53 and 37 seconds respectively than the standard method of communicating by telephone. The e-Chat service was made available to all CPs in November 2015. Whilst downstream BT was a part of the 99.8% of customers that had the benefit of the e-Chat facility, this was clearly not a case of Openreach having sought to discriminate in favour of downstream BT as against all other CPs.

D.5.4.2 Non-Openreach related

5. Following the move of 90 TSO people previously supporting BT Wholesale into Global Services, it was found that they continued to have access to a BT Wholesale broadband diagnostic tool, Woosh, that was not available to external CPs. This was a breach of EoI.

6. A BT BDUK Partnership Director (within BT Group), under pressure from the end customer to bring forward the installation date of two fibre broadband lines to two schools, intervened and contacted Openreach to ask if they could provide an earlier date than that already provided. The end customer's contract was with an external CP, and in turn with BT Wholesale who placed the order with Openreach. Whilst this was a genuine attempt by the BDUK Partnership Director to provide a solution to a customer service problem, this action was inappropriate as the matter should have been referred to the end customer's supplier who could then have discussed the matter with BT Wholesale who would contact Openreach.

7. An individual working in TSO, supporting Global Services, applied for and was incorrectly given access to the broadband test tools on the BT Wholesale partition of the Woosh system. Woosh is a shared system partitioned between Openreach and

BTW and is principally used to test for faults. This person had applied for access to the BT Wholesale part of Woosh because they had wanted to validate the accuracy of information provided by BT Wholesale on its customer numbers. The access to information on Woosh is not available to external CPs and therefore should not have been available to downstream BT. The system was accessed on ten occasions by this person to cross check for data discrepancies. Their access to Woosh was revoked once the breach was discovered.

8. BT's Microconnect Distributed Antenna (MDA) provides fibre based shared infrastructure to MNOs to enable them to achieve greater 2G & 3G mobile coverage. The service was only available in a very limited area in central London and provided connectivity to a total of 31 sites where legacy fibre existed from pre-Undertakings days. In 2007, Ofcom agreed an Undertakings exemption allowing BT Wholesale to continue to provide the non-EoI MDA service to existing MNO customers only. In 2011, and due to a lapse in governance in BTW, BT started supplying MDA to two other MNOs, in breach of the exemption. BT subsequently applied for and was granted a further exemption to enable all MNOs to continue using the service compliantly.

9. An individual in BT Business inappropriately asked a colleague also in BT Business who had access to a system called Switch Manager, to check the status of another CP's exchange line by accessing the system for an inappropriate purpose. The end customer, who had previously been a BT Business customer, had contacted BT Business concerned that they may have been double-billed by BT Business and their new CP for the same service. The former customer had been advised to contact their new CP but had called BT Business on several occasions about the matter. These actions were an attempt to clarify current ownership of the line and it was a one-off misguided attempt to help the end customer and provided no benefit to downstream BT. Given the significance of the Switch Manager system and the non-compliant access, the individuals involved were subject to disciplinary proceedings.

To conclude this section, as will be appreciated from these descriptions, a breach may occur for a wide range of reasons. A significant proportion of those which occurred over the period in review were due to genuine human error, and/or in circumstances that are unlikely to occur again. For many of the Openreach related breaches, further functional separation or structural separation would not have made a difference: they could well have also occurred had Openreach been a separated business. It is also noteworthy that only around one third (6 out of 17) of the non-trivial breaches in this period were Openreach originated. BT does not believe that any of them had an effect on competition.

D.6. Perceptions of others of BT's compliance

Sky have publicly stated that for them, equal treatment is not an issue in reality. In December 2015, David Wheeldon of Sky, said:

"We are not alleging that BT Retail is favoured by BT Openreach in the treatment of customers. That would be a step too far and it is not an allegation we would make." ….."Openreach cannot favour BT Retail and, as I say, I do not think we have any evidence to suggest that it does do that." [42]

[42] Select Committee appearance on 1 December 2015.

At a broader level, it is noteworthy that in their Response to the Ofcom Discussion Document, the EAB summarised BT's record since the formation of Openreach as follows:

"In summary, from a process-oriented perspective, whilst BT's performance in meeting the Undertakings requirements is not faultless, in general it has either met the required Undertakings obligations on time or has subsequently met revised timings. There continue to be a number of breaches each year and there is still a requirement for constant awareness and vigilance. The small number of formal complaints and the non-Undertakings nature of many of the concerns that CPs now raise suggest that, in the main, the Undertakings have been executed as agreed."[43]

The EAB also noted that there had only been six formal complaints raised by CPs to the EAB over the ten years, only one of which the EAB upheld (relating to Ethernet resilience). The EAB also notes that:

"As far as we are aware, there have been no claims by CPs for compensation as a result of the breaches we have determined."[44]

43 EAB DCR Response, para 9

44 EAB DCR Response, para 8i

Table showing all 30 EoI Breaches between 2006/7 and 2015/16

Year	Description of breach	LoB
2006/7	Due to a historical BT process, BT Global Services engineers had been performing single-line shift.	ROBT
2007/8	BT Retail used non-EoI processes for WLR3 orders for some new-end users from 13 to 30 July 2007, and was therefore in breach of its ongoing EoI obligation for this product.	ROBT
2007/8	BT reported to the EAB that an Openreach Special Faults Investigation (SFI) product in relation to LLU lines (launched in late 2006) had not been delivered in an EoI way. For example, a manual investigation process for specific types of faults was found to be available only to BT Wholesale.	OR
2007/8	BT reported to the EAB that the original allocation of London wideband planners between Openreach and BT Wholesale, at the time Openreach had been established, had resulted in the application of non-EoI processes for some CPs' circuits. For example, excess construction charges had not been applied equivalently by the planners in BT Wholesale (who moved during this time to BT Operate) in comparison with the planners in Openreach.	OR
2007/8	BT's handling of 'Tie Pair in Use' (TPIU) messages provided in error in respect of LLU orders was found to have been non-equivalent in two separate respects. BT Wholesale agents continued to make use of their system access to resolve TPIU errors directly, rather than via the Openreach EoI process. In addition, Openreach progressively made a manual TPIU error resolution process available to CPs with large volumes of orders. This process was not notified as generally available to all CPs.	OR
2008/9	BT CPs were provided with extra information compared to non-BT CPs regarding assurance and fulfilment information for WLR3 orders	OR
2008/9	BT CPs and non-BT CPs were given different EMP systems interface testing options.	OR
2008/9	A review by the EAO found that the LLU Customer Service Plan (CSP) for BT Wholesale differed from the standard LLU CSP and contained a dedicated email address and team for escalation cases.	OR
2008/9	An investigation found that Openreach had not correctly billed other parts of BT for some of its products and services.	OR
2008/9	BT Payphones engineers and other non-Openreach teams involved in the provision of non-EoI telephony services carried out work on Openreach assets without its agreement.	ROBT
2009/10	A BT CP was provided with a dedicated email account to escalate faults relating to WLR3 when the standard escalation process failed for a short period in 2008.	OR
2009/10	A BT CP received an additional report regarding the status of WLR3 orders and faults.	OR

2009/10	Openreach at the request of a BT CP used a separate process to report faults to its DSLAMs	OR
2010/11	BT CPs were able to access the National Cable Breakdown Log (NCBL) via BT's intranet pages which were not available to non-BT CPs.	OR
2011/12	Since 2005 BT CPs had been able to access information on major incidents and faults via a system which was not available to non- BT CPs. Details of the incidents would have been made available to non-BT CPs during the normal course of business. The system was not classified as high risk initially and was not included in compliance monitoring.	ROBT
2011/12	An anonymous Openreach employee complained to Ofcom that Openreach was unfairly prioritising frames work for a particular customer. This meant that Openreach did not provide the same product or service to all CPs on the same timescales.	OR
2011/12	A CP in Northern Ireland – which had won business customers from BT Retail – had trouble migrating them from BT Retail's Classic product set to WLR3. This problem also affected other non-BT CPs moving customers from Classic to WLR3 but it did not affect BT Retail.	OR
2011/12	BT Retail participated in weekly calls with BT Operate and BT Wholesale which included information on future planned engineering works which was not available to other CPs.	BTW
2012/13	A trial had been carried out for a service which was not offered to the wider CP community. The participant in this trial was a non-BT CP.	BTW
2012/13	BT had reported a case whereby BT Wholesale had set up a site on BT's intranet to trial a new means of informing industry of small scale network incidents. It was accessed by 13 BT Retail people but was not available to other CPs.	BTW
2012/13	A change made to the Equivalence Management Platform resulted in rejection of a small number of orders for transfers from BT Retail to other CPs. This occurred on lines that had not migrated to WLR3 and where a particular marker was present.	OR
2013/14	A number of people in BT Global Services had access to a remote test capability on an IT system involved in the repair process, that was not accessible on an equivalent basis by other CPs.	ROBT
2013/14	In a number of cases, Openreach had administered wayleaves on behalf of BT Wholesale. It was found that this activity should have been offered as a service on an equivalent basis to other CPs.	OR
2013/14	Differences were found in the way the Openreach Directors' Service Office handled escalations for two CPs (one of which was a BT CP) compared to all other CPs.	OR
2013/14	A BT manager intervened with Openreach, on behalf of another CP's end-user, to try and bring forward the installation of a fibre connection.	ROBT
2013/14	An individual working in the part of BT TSO that supports BT Global Services was given access to the broadband test tools on the Woosh system. Non-BT CPs are not able to access Woosh in the same way, hence this was found to be a breach of BT Wholesale's obligation to provide broadband on an equivalent basis in Markets 1 and 2.	BTW

2013/14	A new Openreach product was launched but its website said it was not available in Northern Ireland. This was found to be a breach of Openreach's obligation to supply the same services in Northern Ireland as it does in the rest of the UK.	OR
2014/15	BT Wholesale provided a service, Microconnect Distributed Antenna, to two new customers in breach of an exemption from Ofcom in 2007, which permitted Openreach only to supply the service to existing customers.	BTW
2015/16	A BT Business (BTB) Corporate Account Manager contacted a former colleague in BTB Complaints Management who had access to the 'Switch Manager' system in an attempt to resolve a customer billing issue. They tried to clarify ownership of a Wholesale Line Rental 3 (WLR3) line by inappropriately accessing 'Switch Manager' directly (in a misguided attempt to establish whether potential double billing could be occurring) and barring outgoing calls on the WLR3 line for a short period (less than 5 minutes).	ROBT
2015/16	Openreach failed to provide an e-chat facility on an EoI basis to 97 Metallic Path Facility (MPF) CPs (accounting for 0.2% of the MPF lines), who did not participate in the original trial of the facility between August 2010 and November 2015.	OR

Annex E

DPA processes: progress on, and further plans for, improvements

This annex:

- provides information on the launch of DPA and the steps BT is taking to facilitate DPA take-up by other CPs;
- addresses Ofcom's position in relation to the role of DPA in developing network infrastructure competition; and
- describes why Ofcom should not include DPA take-up in the success criteria for the Openreach governance model.

E.1. The launch of DPA and the steps BT is taking to facilitate DPA take-up.

E.1.1 Progress of DPA to date

BT has been a willing participant in the development of DPA from the outset, having announced the intention to launch a product ahead of any regulatory moves to impose it as a SMP remedy. DPA was first addressed substantively in Ofcom's 2010 Fixed Access Market Review, at the conclusion of which the introduction of DPA described by Ofcom as Passive Infrastructure Access (PIA) was mandated as an SMP remedy.

Ofcom noted in its final statement that:

> "*BT also supported our proposal in its consultation response, having already announced that it was willing to offer access to its ducts and poles*."[45]

And that in terms of the proposed remedy:

> "*BT supported the proposed scope of the PIA remedy, arguing that it aligned with the rationale for PIA, i.e., applying only to local access networks and for the purpose of rolling out new NGA networks*."[46]

Pursuant to the 2010 FAMR Final Statement, BT did then develop, consult on, and launch, its DPA product.

It was recognised in 2010 that the introduction of DPA was an untested, and pioneering initiative both in technology terms and in relation to the extent to which CPs commercial strategies would be to use DPA. Ofcom's implementation plan allowed BT some time to develop its processes and its reference offer and for consultation on that with other CPs. Even then, it was recognised that the plan would need to be for: *"most likely a soft launch starting*

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[45] Ofcom's Review of the Wholesale Local Access Market - Statement on market definition, market power determinations and remedies – 7 October 2010 – 7.25 http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf

[46] Ibid: 7.44.

with low order volumes to test the operational processes"[47] As discussed further below, Ofcom itself noted the uncertainty over the economic case for DPA as also highlighted in an independent report commissioned by Ofcom from CSMG.

In its February 2016 Initial Conclusions statement, Ofcom commented on the low levels of take-up of the current DPA reference offer. Its conclusion was that there is a "chicken and egg" problem associated with DPA, i.e. that CPs have not indicated scale demand for the problem, but that BT has not taken steps to enhance the product in the absence of demand. Ofcom does not, however, appear to have undertaken an analysis to support this assertion.

BT has commented elsewhere in its response on the commercial strategies of other CPs, but in relation to DPA, BT firmly denies that the current low levels of take-up of DPA are as a result of BT being unwilling to engage with the development of DPA.

E.1.2. Steps being taken to enhance DPA.

Whilst BT does not accept that it has been unwilling to promote DPA, BT does recognise that issues have been raised about whether DPA processes are fit for purpose at scale use.

The fact is though that since PIA was first launched, the larger CPs that could provide significant infrastructure competition and scale through the use of PIA have not participated and fully tested the processes end-to-end, and have little or no experience of the process on which to base any relevant feedback. To date, the use of duct and poles has been by 3 relatively small scale CPs.

Nevertheless, BT also recognises that interest in DPA appears to be increasing. Accordingly BT has a series of improvements underway, which have been agreed with CPs (and with Ofcom) at the PIA Industry Working Group.

First, Openreach will make its network records available (with caveats around adequate security). Openreach took industry through a proposed means for this (Infrastructure Discovery Tool) in late July 2016, and feedback was positive. The new tool will be available in Spring 2017.

Second, Openreach has implemented a Proof of Concept (PoC) trial in July 2016 that is testing a number of process improvements. This will test a compressed survey and build process, to enable CPs to do their own enabling works e.g. duct blockages and allow CPs to deploy distribution joints in our joint boxes. A more efficient process will reduce the number of "touch points" with Openreach and enable CPs more certainty during build and reduce end to end delivery timescales.

In addition, new audit arrangements are being used to ensure the quality of the network is not impaired, and there has been additional accreditation requirements for this purpose. Should the PoC continue to prove successful we will look to make process changes BAU from January 2017.

[47] Ibid 7.17.

It is regrettable that whilst BT is playing its part in seeking to enhance the DPA product, although 5 smaller CPs have signed up, larger CPs have, unfortunately and for whatever reasons, declined to take part in these trials.

Whilst Openreach is seeking to enhance DPA, we would sound a note of caution. BT's view is that even with improved processes, CPs will find DPA is not without its limitations and its challenges. Other CPs will still encounter the very same challenges that face Openreach when deploying their own new network infrastructure assets in an infrastructure which in some areas has been in place for many decades. However, CPs will now discover any issues sooner, do more of the enabling work themselves, and hence their end to end timescales should reduce. Whether this ultimately changes the economic case for DPA, however, remains unclear.

E.2. The role of DPA in developing network infrastructure competition

E.2.1. Ofcom's objectives in relation to DPA take-up

However good the processes that Openreach puts in place, there can be no certainty that DPA will be used extensively as an alternative means to deliver fibre based ultrafast broadband. This issue is discussed elsewhere in the Response, and in the Analysys Mason report provided with BT's response.

Ofcom appears to set great store on the potential for DPA access to drive further network infrastructure based competition. In its February 2016 Initial Conclusions statement, Ofcom set out its belief that:

> *"The best driver for investment and innovation is network based competition: and this is at the heart of our future strategy. We believe competition between different networks (including those built from scratch or built using duct and poles owned by others) is the best way to drive investment in high quality, innovative services for consumers."*[48]

In Section 3, para. 49, of the Response, BT highlights the tensions between Ofcom's competing regulatory objectives. That such tensions clearly exist is evident from section 4 of Ofcom's Initial Conclusion statement. Having identified, as above, that it wishes to see and promote infrastructure based competition, Ofcom adds that:

> *"We acknowledge, however, that consumers across much of the country will continue to rely on competition based on Openreach's network and services. Equivalent access to Openreach's network will remain vital so BT's competitors can still get access to the same services at the same quality as BT's retail divisions. For this reason, we are also setting out a strategy to further enhance the independence of Openreach from BT Group . . ."*[49].

Not only is BT concerned by the tensions between these different objectives given the lack of clarity about the relative importance attached to them by Ofcom, but it is also concerned by the lack of an evidential basis to support Ofcom's position about the likely role that DPA will play in developing network infrastructure competition.

[48] Para. 4.12, Initial Conclusions
[49] Ibid 4.15.

In the course of the 2010 BCMR, Ofcom commissioned research from CSMG about the potential for and likelihood of DPA helping promote infrastructure competition. In its Final Statement it set out its economic assessment:

> ***"Economic assessment*** *– We commissioned CSMG to compare the cost of deploying an NGA network in shared physical infrastructure with deployment in newly built physical infrastructure and with the cost of supplying customers using a non-physical wholesale NGA product. This demonstrated that a PIA obligation would offer significant savings on the capital cost of network deployment compared with new build physical infrastructure and would therefore be attractive to CPs committed to infrastructure deployment. However the analysis indicated that a shared infrastructure based NGA network compared less favourably in cost terms with a wholesale NGA product such as BT's GEA product. The modelling showed that a shared infrastructure NGA network deployment would have significantly higher fixed costs than the GEA product at current prices even under very favourable assumptions about infrastructure sharing. These fixed costs mean that a shared infrastructure based NGA network deployment would be more expensive for a CP than GEA at all but high customer penetration.* ***This suggests that it may be a less attractive option for CPs in areas where BT has deployed its own NGA network, at least while demand for NGA services remains uncertain. A PIA obligation looks to be a much more attractive option for areas where BT has not deployed an NGA network.*** *In these areas a PIA obligation would make entry easier by reducing CPs' costs and putting them on a more equal footing with BT. This could speed up the initial NGA network deployment."*[50]
> [Bold emphasis added]

In the course of this Strategic Review, Ofcom has failed to undertake a cost modelling analysis of the economics of using DPA to build a network. Yet it has now taken the opposite position to that taken in 2010, concluding that, "*the economics of new network build tend to favour dense urban areas*"[51] and that its intends "*continuing to regulate access to Openreach's networks and services where network competition is not effective, including in more remote and rural areas*"[52].

If (contrary to the 2010 findings) Ofcom is now right that the economics of network build do not favour building outside dense urban areas, and given that Openreach's GEA product used by CPs for high-speed broadband (which, it was found by the research relied on by Ofcom in 2010, undermines the case for DPA investment) is now available for 90% of households, it remains unclear whether scale take-up of DPA will occur. Indeed, we note that Analysis Mason has concluded in its report provided with BT's response that active wholesale products will continue to be relied upon by most of the industry.

Given this inter-relationship between DPA and active services, If Ofcom wishes to provide the maximum incentives to other CPs to use DPA, it should avoid imposing pricing restraints on the active services. As Analysis Mason points out:

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[50] Ofcom's Review of the Wholesale Local Access Market - Statement on market definition, market power determinations and remedies – 7 October 2010 – 7.5.
[51] Para. 4.32, Initial Conclusions.
[52] Para. 4.16, Initial Conclusions.

"*If there were to be any reduction in GEA pricing, for example, then this would reduce the area in which it is more cost-effective for an operator to deploy its own network using DPA. Ofcom will need to carefully balance any potential price regulation of GEA with its aim of securing a third network in significant parts of the UK".*

E.2.2 The cost of using DPA

In its Initial Conclusions statement, Ofcom's emphasised the role DPA can play in boosting FTTP investment, stating that:

> *"DPA can reduce both costs and disruption of building FTTP networks. For example, Vodafone say DPA has reduced the capital expenditure per home passed by its Spanish FTTP network by at least 40% compared to building it on a greenfield basis."*[53]

This may well have been the case in Spain. However, the relevance and success of passive access depends on the availability of alternative forms of access (i.e. active) as well as different demographics and topology (e.g. prevalence of multi dwelling units) which all impact on the overall efficiency of different forms of access and their likely success in the market and in promoting different forms of competition. We note that in 2010, CSMG, in its research undertaken for Ofcom concluded:

> *"We found it difficult to draw inferences about likely take-up in the UK from experience in other countries because of the differences in the sharing arrangements and particularly the historical context."*[54]

BT supports this view.

BT does not believe there is an issue about the price of ducts. Ofcom appears to support this view and notes in its Initial Conclusions that:

> *"We believe that the pricing of the existing DPA remedy is broadly in line with international comparisons. This was supported by stakeholder submissions."* [55]

BT does not dispute the fact that civil engineering costs are material. However, the condition and utilisation of BT's duct network, which serves a number of different technologies both old and new, varies widely and costs would be incurred were new networks to be installed via this network, e.g. to remove duct blockages and to build new duct where existing conduits are full. The costs involved will only be known and understood from experience of deploying using BT's network and DPA which, although available since 2012, has yet to see scale use by CPs so there is little hard evidence to go on.

The UK also has a very different geography to Spain and BT's access network serves a number of different technologies, both old and new. Given the differences to Spain, and also the complexity of the BT network, without evidence from large scale use of deploying in BT's infrastructure any statement that experience from Spain (or other countries where duct access

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[53] Para 4.18, Initial Conclusions.
[54] Ofcom's Review of the Wholesale Local Access Market - Statement on market definition, market power determinations and remedies – 7 October 2010 – 7.5
[55] Para. 4.30, Initial Conclusions.

is more widely used) will transfer to the UK must be treated with some caution - exactly as Reports published by Ofcom alongside the Discussion Document stated. [56,57]

E.3. Ofcom should not include DPA take-up in the success criteria for the Openreach governance model

There is every likelihood that the use of DPA will increase in the coming years and hence that, to some degree, albeit exactly how much is as yet unknown, infrastructure based competition is likely to increase.

Firstly, as set out above, BT is working actively with industry to facilitate DPA take-up.

Secondly, access to ducts, poles and other relevant passive elements has already been made more widely available through the implementation of the Civil Infrastructure Directive[58] (implemented in the UK as the Access to Infrastructure Regulations[59] in force since the end of July 2016). These regulations provide all communications providers with access to the physical infrastructure of any infrastructure provider on fair and reasonable terms (including specific provisions as the appropriate price[60]). This will provide CPs with increased opportunities to develop their networks based on DPA, but using infrastructure owned by others apart from BT.

Thirdly, BT also notes that Ofcom has indicated any future development of passive infrastructure access will be reviewed in a Market Review due later in 2016.[61] This again will provide Ofcom with an opportunity to focus regulation as needed in this area.

BT notes, however, that in Section 6 of its consultation, Ofcom identifies industry outcomes, including levels of investment, as one of the parameters by which it will measure whether its preferred model of functional separation has been successful. BT contends it would be wrong to use DPA take up as a metric of investment for the following reasons.

Firstly, it appears that Ofcom has not predicated the need for greater separation on any failure of DPA to date. Similarly, it would appear from Ofcom's Initial Conclusions statement that at that stage Ofcom did not consider that there was a need to impose greater functional separation in order to increase take-up of DPA. Rather, Ofcom appears to regard the need for greater functional separation as being linked to the way in which active services are provided:

> *"We acknowledge, however, that consumers across much of the country will continue to rely on competition based on Openreach's network and services. Equivalent access*

[56] In particular, both Portugal and Spain feature a high proportion of MDU's, high availability of empty duct and low labour rates. The regulatory approach adopted in each country is very different to the UK and, unsurprisingly, these combination of factors have all led to very different market outcomes.
[57] WIK "Competition & investment: An analysis of the drivers of superfast broadband", a Study for Ofcom (2015), and International Case Studies, A report by Analysys Mason for Ofcom, 2015.
[58] Directive 2014/61/EU of 15 May 2014 on measure to reduce the costs of deploying high-speed electronic communications networks.
[59] The Communications (Access to Infrastructure) Regulations 2016 SI 2016 No. 700.
[60] See Regulation 16 of the Access to Infrastructure Regulations.
[61] "The market review that we are coming forward with this year—not next year but this year, to start the consultation—will be looking at the pricing of ducts and poles in respect of our other regulatory areas." *(Sharon White, evidence to CMS Select Committee 12 April 2016)*

> *to Openreach's network will remain vital so BT's competitors can still get access to the same services at the same quality as BT's retail divisions.* ***For this reason, we are also setting out a strategy to further enhance the independence of Openreach from BT Group****…'*[62] [Bold emphasis added]

If Ofcom's reason for increasing functional separation was to ensure that CPs buying active wholesale access products could do so on an equivalent, non-discriminatory basis, it would be wrong to focus on metrics that are not related to active services.

Secondly, as this annex shows, Openreach cannot control the level of demand for DPA which will be dependent on the commercial assessments for new investments undertaken by other parties - ie the ultimate "success" of DPA is outside Openreach's control.

Thirdly, the counterfactual against which assessment should be made is entirely unclear. Will DPA investment come outside the GEA footprint (as was anticipated in 2010) or in the urban footprint (as Ofcom now anticipate, albeit without evidence to support that)?

Fourthly, if increased DPA take up occurs, but using duct belonging to other infrastructure providers who may have their own commercial reasons for supplying a DPA product at prices lower than BT's, that would not evidence a failure on the part of BT to offer duct access on reasonable terms.

Fifthly, again in relation to the correct counter-factual, given that action is already being taken by BT to facilitate increased DPA take-up, and that Ofcom is likely to review DPA regulation in the next market review, it would be impossible to determine whether any increased take up was the result of those actions or because of changes to the Openreach model of governance.

Finally, all of the concerns above demonstrate that none of the factors that will determine the extent to which DPA is taken up are anything to do with the way in which the governance of Openreach operates, or the culture of Openreach people, or indeed, the strategy adopted by BT in relation to other types of network investment.

[62] Ibid 4.15.

Annex F

Northern Ireland

F.1. Introduction

BT welcomes Ofcom’s finding that the integrated governance model that BT operates in Northern Ireland and the different engineering practices which depend on sharing engineering resources there, have been effective in terms of good outcomes for Northern Ireland’s stakeholders.

BT is proud of its successful record of compliance with equivalence and information separation principles in Northern Ireland, a point Ofcom recognises in noting that they found no evidence of any problems caused by the model throughout the course of this review.

BT agrees with Ofcom that there is no need to change the current governance arrangements that apply to BT Northern Ireland. This annex highlights some of the key aspects that have underpinned the good outcomes that support this conclusion.

F.2. First class, efficient, operational delivery

The “virtual separation” model adopted in Northern Ireland has avoided the inefficiencies that would have been incurred had full functional separation of the Openreach, BT Wholesale and Technology, Service and Operations organisations, in the relatively small geographic area of Northern Ireland that is separated from the rest of the UK, been implemented. BT Northern Ireland networks exists as a distinct and separate organisation within the Business & Public Sector division of BT Group to ensure all Communication Providers in Northern Ireland, whether BT retail units or external, are treated equivalently and without favour.

In terms of operational delivery, geographic separation brings many challenges for the BT Northern Ireland leadership team. There is no ability to move engineers from other regions, as is common in Great Britain. To address this, BT Northern Ireland has developed a multi-skilled workforce supported by local contractors, which provides an agile team that can respond to changes in demand and circumstance. This resourcing approach, coupled with expert local knowledge and local management decision-making in the interests of local people and businesses, has helped Northern Ireland citizens consistently experience better provision and repair service than their counterparts in Great Britain.

F.3. A customer focused organisation

This focused organisation of local people is extremely well placed to meet the needs of stakeholders in Northern Ireland. It makes local decisions for the benefit of the local community and is best placed to deal with the wider business and political environment in Northern Ireland. In Northern Ireland, different legislation applies. There are 11 local planning authorities and there are Northern Ireland specific public bodies (such as Health and Safety Executive (NI) who have similar remits to their national counterparts but are distinct organisations). The regional approach allows BT to work with these bodies and maximise BT’s service delivery in the Northern Ireland marketplace for the benefit of all stakeholders. Indeed, BT notes that the Deputy Speaker of the Northern Ireland Assembly and Chair of the Northern Ireland Enterprise, Trade & Investment Committee has written to the Chief Executive of Ofcom supporting the current arrangements and expressing concern that changes to the current governance structure could be detrimental to households and businesses in Northern Ireland and may hinder the future expansion of service and digital infrastructure enabling trade and employment.

F.4. Investing in the network for the future, for the benefit of competition and consumers

The leadership team in BT Northern Ireland maintains a separate P&L and makes investments in accordance with wider BT group investment governance, but separate to the Openreach investment process. BT in Northern Ireland operates within its own capital budgets and has flexibility to spend as appropriate within those budgets, without additional approval or sign-off requirements. The integrated nature of the BT Northern Ireland networks organisation means that investment decisions can quickly be turned into action, with swift deployment of the latest technologies. An example of this is the accelerated investment in NGA within Northern Ireland versus the rest of the UK. The way that this has been undertaken has been to the benefit of competitors as much as consumers. It has been done on an industry-wide basis, on the basis of business cases that are determined on their merits within Northern Ireland without preference being given to any CP (including BT's own retail divisions serving Northern Ireland).

Local investment decisions on how to deploy FTTC in Northern Ireland have led to the greatest proportion of premises connected to a fibre cabinet across the UK regions. Central to these investment decisions is the local relationship with the devolved administration. BT and the Northern Ireland Assembly have jointly funded deployments into the most rural parts of the UK. Without the local presence to support government investments, as the Deputy Speaker of the Northern Ireland Assembly has noted, future rollouts of both superfast and ultrafast broadband could be at risk.

F.5. A culture of compliance and equality of service

BT Northern Ireland has committed to:

- provide Equivalence of Input in Northern Ireland, with the same products and services and to the same timescales as in Great Britain;
- operate equivalently across all CPs;
- provide transparency around key products and implementation of Next Generation Networks; and
- provide co-location of specified types of equipment at BT exchanges, all just as in Great Britain.

BT's Equality of Access targets and Key Performance Indicators also apply in Northern Ireland. BT Northern Ireland supply only products developed at a national UK level, not locally. Other Communications Providers (CPs) can purchase network access products and services used in Northern Ireland through the same channels that are used to purchase these same products and services in the rest of the United Kingdom. CPs can choose to be account managed from Northern Ireland and those headquartered in Northern Ireland presently do so.

BT Northern Ireland has established governance structures, such as the BT Northern Ireland Regulatory Compliance Committee, to ensure transparency about how BT performs against its Undertakings commitments in Northern Ireland. BT has implemented a number of controls to ensure the separation of BT Northern Ireland's wholesale and retail businesses and personnel. Sharing of wholesale customer and commercial information is not permitted between the BT Northern Ireland wholesale and retail organisations. BT has introduced specific compliance training for BT Northern Ireland personnel to ensure equivalence and non-discrimination of operations and information. The Equality of Access Board has monitored and reported on BT's compliance with the Undertakings across the whole of the UK including Northern Ireland.

For its part, Ofcom has established the Northern Ireland Telecoms Stakeholders Forum to allow all CPs and other stakeholders to discuss telecoms provision in Northern Ireland and any associated concerns. Ofcom works closely with the Equality of Access Office (EAO) to test all providers in Northern Ireland are treated equivalently. Communication Providers who have any concerns about the application or delivery of the Undertakings in Northern Ireland may use the complaints process of the Equality of Access Board (EAB) to prompt the matter to be investigated.

F.6. Conclusion

Ofcom notes the regulatory model for Northern Ireland has proved proportionate and successful for Northern Ireland stakeholders. Ofcom's decision that it does not need to be changed is welcomed, as it ends the regulatory uncertainty for the organisation in Northern Ireland.

Ofcom notes the regulatory model for Northern Ireland has already evolved over time. BT recognises there will be opportunities for BT Northern Ireland to reflect any changes made to Openreach in Great Britain so as to ensure that it remains focussed on continued delivery of first class services that are pro-competitive, and which bring real benefits to all those who live and work in Northern Ireland. Indeed, Ofcom's decision has already led to the Northern Ireland networks team taking a fresh look at how best to enhance further the broadband and super-fast coverage and potential new investment options. BT Northern Ireland will continue to adapt its operations and processes to further increase stakeholder engagement and feedback, provide greater transparency around information sharing restrictions, organisational separation and equivalence and to accentuate branding independence.

Finally, this annex has shown that BT Northern Ireland people have adopted the right culture of compliance, a real commitment to delivering service equivalently, and the best possible standards of service, to provide internal and external customers with services on equivalent and transparent terms within the current regulatory model for Northern Ireland. It has done it successfully for the last ten years and it intends to maintain its track record in this regard in the coming decade.

Annex G

Case Studies of separation

G.1. There are no precedents for Ofcom's proposed governance arrangements

In its Discussion Document, Ofcom considered international examples of structural separation in communications, noting that "*recent examples of structural separation are where it has been secured not as a competition remedy, but as a requirement made by Governments for public funding for superfast broadband deployment*."[63] Ofcom also notes that "[s]*tructural separation has also been applied in a number of utilities, notably railways and gas, with differing outcomes*."[64] Ofcom reached no conclusion, therefore, on the relevance of international and UK examples of structural separation.

CPs, however, suggested that models exist which Ofcom should consider. For example, "*Sky urges Ofcom to examine carefully situations in which structural separation in other countries in the fixed line communications sector has been achieved and works effectively – in particular, to Sky's knowledge, in New Zealand, Sweden and Singapore.*"[65]

In its July consultation, Ofcom describes a number of international and UK models, but concludes as follows:

"The case studies provide relevant examples of models of legal separation that have been helpful to inform our analysis. However, they also reveal several contextual differences. These include different objectives, levels of regulator and Government involvement, the effect of direct funding as a mechanism to facilitate separation, and market conditions (including levels of competition). In conclusion, there is not a direct read across to the specific situation faced in the UK today or features of our proposal for Openreach."[66]

BT agrees with this conclusion – there is no precedent for Ofcom's proposal and all the suggested examples have very profound differences to Ofcom's model. In particular, none have been motivated by giving an objective to enhance competition and investment by creating a more independent access company. This is summarised in the Table below.

63 Para. 11.66, Discussion Document.
64 Para. 11.69, Discussion Document.
65 Para. 74, http://stakeholders.ofcom.org.uk/binaries/consultations/dcr_discussion/responses/Sky.pdf.
66 A4.20, July Consultation.

Country	Industry	Key difference to Ofcom proposal
Australia	Telecommunications	Full separation is being put into place, motivated by a government backed FTTP programme.
New Zealand	Telecommunications	Full separation is in place, motivated by government backed FTTP programme.
Singapore	Telecommunications	Co-ownership is temporary (and divestiture is to be achieved by 2018), motivated by government backed FTTP programme.
Sweden	Telecommunications	The access business (Skanova) is not independent from its parent, as recognised by Ofcom at A4.5 of the July consultation.
Scotland	Water	The separated entity is a retail arm, operating in a market intended to be competitive, as opposed to Openreach which is the regulated part of the BT group.
UK	Banking	Parent company exercises economic control and management oversight and sets the strategy of the ring-fenced entity, as recognised by Ofcom at A4.17 of the July consultation.

G.2. Australia, New Zealand

As Ofcom recognise, separation arrangements in Australia and New Zealand were not motivated by competition issues, but were part of a nationwide FTTP programme largely funded by the governments.

"*Internationally, Australia and New Zealand are the most recent examples of countries to have undertaken pure structural separation in communications markets. However, in both cases, separation has been secured not as a competition remedy, but as a requirement made by Governments for public funding for superfast broadband deployment*."[67]

Australia is undergoing a large change in direction as the cost and slow speed of the FTTP roll-out programme became apparent and an increasing cause of concern. Ofcom acknowledge that the Australia case illustrates the scale of the practical challenge associated with structural separation. It states, "[w]*hile the superfast broadband initiative was announced in 2009, agreement with Telstra and Optus to separate their networks was only reached in 2014. Initial plans for a full FTTP rollout also had to be abandoned in favour of an approach using a mix of technologies including FTTC and wireless solutions*."[68]

In the case of New Zealand, there is no discussion by Ofcom of whether the arrangements have been a success. In fact, take-up is much lower than achieved in the UK, and costs have been much higher as shown in the Table below.

67 Para. 6.55, Initial Conclusions.
68 Para.11.67, Discussion Document.

G.3. New Zealand and UK fibre programmes compared[69]

	New Zealand FTTP	**UK FTTC**
Approximate Cost per premises passed	£825	£175
Approximate Government contribution per premise	£426	£60
Achieved Coverage, 2016	68% planned to rise to 75%	90% rising to 95%
Estimated take-up so far (of all households)	12%	36%
Country average achieved average speed (Akamai)	10.5 Mb/s	14.9 Mb/s

G.4. Singapore

Equally, the trust model as used in Singapore does not provide a template for the UK. Ofcom describes this model as follows:

"Although widely cited as structural separation, separation of the fibre network has not been associated with any divestment and remains fully owned by the incumbent operator, SingTel. SingTel's stake is managed at arm's length by a Trust, with a structure designed to ensure a break in the incentive and behaviours of a vertically-integrated company without undermining the beneficial ownership of the assets."[70]

The Trust in Singapore was implemented to comply with conditions attached to the award of a government NGA contract won by a SingTel-led consortium. The contract covered the design, build and operation of a passive infrastructure network (such as dark fibre and ducts) to underpin Singapore's NGA Project which was to use FTTP. SingTel is required to divest 75% of its stake in the NetLink Trust by April 2018. [71]

Further, the Trust was not designed to give SingTel greater independence as regards investment decisions, as strategic network decisions have already been made by the Singapore Government. The Trustee Manager's temporary role is operational - to oversee

69 Cost estimates for UK and New Zealand derived from Analysys Mason "International Benchmarking report, *21 September 2015" at* http://stakeholders.ofcom.org.uk/binaries/consultations/dcr_discussion/responses/BT_Annex_International_Benchmarking_Report_Analysys_Mason.pdf
Coverage estimates derived from http://www.mbie.govt.nz/info-services/sectors-industries/technology-communications/fast-broadband/documents-image-library/june-2016-quarterly-broadband-deployment-update.pdf and http://media.ofcom.org.uk/facts/.
In terms of premises connected to FTTP in New Zealand, latest fibres are 240,000 FTTP live customers equivalent to 12% of all premises in New Zealand.

70 para. 6.56, Initial Conclusions.

71 The Straits Times, May 12th 2016 at http://www.straitstimes.com/business/companies-markets/singtel-plans-up-to-45b-ipo-for-netlink-trust-to-slash-stake-sources

installation, operation and maintenance of the infrastructure assets while discharging its contractual and regulatory obligations to provide the specified dark fibre network.

There is also a very large difference in the scale involved – SingTel has transferred just 7 exchange buildings (alongside ducts and manholes) to the new access business. The value of the assets and business transferred represented under 4% of SingTel's market capitalisation, whereas Openreach accounted for 41% of Group EBITDA in 2014/15.

G.5. Sweden

The following evidence was given to the House of Commons Culture Media and Sport select committee by the Ofcom CEO:

"You can look at Sweden, which is an interesting example. TeliaSonera— I do not know whether the Committee has discussed it or had evidence about it—bundles telecoms and post, and has done a very similar thing to the leading proposal in the DCR…"[72]

The similarities between the set of arrangements in Sweden and those proposed by Ofcom are minimal. Telia *has* incorporated its access business, known as Skanova, but otherwise still runs this business unit as a normal part of an integrated company (albeit one with SMP obligations relating to non-discrimination). The arrangements in Sweden, therefore, are significantly different to those proposed by Ofcom, for the following reasons:

- Skanova does not have an independent Board, or one with a majority of independent members. The Board is now comprised of 3 members, all of whom are employees of Telia;
- Independent representation on the Board of the Telia network business was required by the European Commission under the terms of the Telia - Sonera merger in 2002, however this requirement lapsed in 2010. Independent representation was no greater than one independent representative as part of a 5 person board structure (including 2 employee representatives);
- After a Telia/Skanova internal review in 2015, the working Board in Skanova was dissolved as it was not considered necessary;
- Skanova does not operate independently from the wider Group. Its annual operating plan must be agreed by Region Sweden, and ultimately by its parent, Telia. Skanova is treated as a normal business unit of Telia. Skanova does not have financial independence from its parent;
- There is managerial interdependency between Skanova and Telia, and Telia are involved in the development of access deployment strategies;
- Should there be any disagreement between Skanova and Telia, over investment or technology choice, the latter would be able to impose its priorities. Telia has no obligation to publish reasons for any choice it makes; and

72 House of Commons Culture, Media and Sport select committee hearing on 12th April 2016.

- The use of any profit generated by Skanova (for example, whether used for new investment or as a source of dividends for shareholders) is also subject to Telia agreement.

G.6. Scottish Water and Business Stream

Ofcom also mentioned[73] that the Water Industry Commission for Scotland (WICS) has required separation between Scottish Water and Business Stream. The latter is now a subsidiary of state-owned Scottish Water (which is a full monopoly) and maintains customer records and a billing system.

The equivalent in BT terms would be for BT's retail business-facing unit to become a subsidiary of BT Group. This arrangement is not, therefore, comparable to Ofcom's proposal to make Openreach a subsidiary of BT Group.

G.7. Ring-fencing in banking

Ring-fencing has been introduced in several countries as part of a series of measures to respond to the global financial crisis (GFC) and to reduce the risk of further bank failures. The purpose is to prevent financial contagion, not to promote competition.

- After the 2008/09 GFC it became very clear that the global banking industry had become more complex, more interconnected and more leveraged than had been recognised by policymakers (i.e. politicians, government and the regulators).

- Legislation was introduced to make banks more sensitive to real economy risks, better able to absorb losses, manage liquidity, respond to banks that get into financial trouble, and improve culture and governance.

- Ring-fencing has been implemented by different countries in different ways, but the unique characteristics of the UK banking sector have led to a relatively complex solution. As a result, a seven year time frame was agreed for implementation in the UK.

- HM Treasury estimates the new arrangements will increase operating costs by **between £150m and £530m a year.** Banks also face very large increases in their capital and funding costs to make sure they are better able to meet new capital adequacy ratios.

Retail banks are required to be operationally and financially separate from investment banks – so-called "ring-fencing". Ring-fencing is effected by legal incorporation of the ring-fenced banks and regulated arrangements for their governance. However, this is not a form of functional separation: the ring-fenced banks use shared systems, continue in common ownership, are not independent of the direction and control of their parents. There are two main reasons why legal separation is being imposed on the banks:

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[73] Para. 11.55.2, Discussion Document.

- without a legal entity basis, it would be very difficult for financial regulators to impose constraints on the economic links between activities across the group, particularly the separated capital bases of the ring-fenced banks; and

- a requirement for continuous provision of banking services means that the process (known as resolution) to determine which activities of a failing bank are to be continued, and how, will need to be concluded quickly (within days) in the event of failure. There will not, for example, be time for segregating a large and complex balance sheet into discrete elements quickly.

These reasons do not apply to Openreach.

- Ofcom's purpose is not to prevent financial contagion, but to promote competition;

- The economic links between businesses do not need to be broken – vertical integration is important for good investment and competition outcomes – and are already monitored via the Regulatory Accounts and SMP non-discrimination requirements. The existing regulatory framework delivers a practical and effective solution to monitoring these requirements; and

- One of the primary purposes of the reforms is to make it easier and less costly to respond to banks that encounter difficulties, so that a rescued retail bank can be established "within days" if need be. There has been no suggestion that BT might suddenly fail (in a manner which may happen if depositors lose confidence in the solvency of a bank) and that Openreach might need to be established as a separate company within days of a crisis emerging. No incumbent has ever been known to fail in such a catastrophic way – a bank run does not happen to a telecoms company.

As regards governance arrangements for ring-fenced banks (RFB), these are still not settled five years after the introduction of the proposals. It is clear, however, that these arrangements are fundamentally different from those contemplated by Ofcom in respect of the relationship between Openreach and BT Group. More specifically, parent companies retain economic control and management supervision of ring-fenced banks which is not the case for Ofcom's proposals:

- The Prudential Regulatory Authority (PRA) has stated it expects parent companies to exercise 'adequate oversight' of a RFB as long as actions are consistent with the ring-fencing regulatory obligations. The PRA have also stated that the requirement of the RFB board to act independently does not need to be at odds with the interests of the entity's wider group.

- The FCA has also made it clear that the group parent still has control (emphasis added):

"One particular form of this commentary is that our rules on the governance of the ring fenced bank within a group mean that it will be independent in all respects, and that, proverbially, it will be able to stick two fingers up at its parent. No. The ring fenced bank will have to observe the law in respect of the requirements of ring fencing, not more than that. This is not really different from the position for banks that have subsidiaries operating in other countries, they have to respect the laws of the country in which they operate. But, let me be clear what it does not mean: it does not mean that the ring fenced bank can set its own strategy and thereby

<u>ignore the group to which it belongs</u>; it does not mean that it can set its risk appetite in isolation of the group to which is belongs; it does not mean that it can refuse to pay a dividend to its parent if it is adequately capitalised both now and looking forwards using stress tests (in other words, it does not have a reason to trap excess capital); and it does not mean that its CEO can ignore the Group CEO. But, and this is crucial, the group cannot require the ring fenced bank to break the rules of ring fencing. I hope this is clear."[74]

Finally, ring-fencing has raised issues for pension scheme trustees in terms of detriment to the employer covenant with potential requirements for material levels of financial mitigation. Substantial costs have already been incurred. This precedent demonstrates the reality of the pensions costs arising from Ofcom's proposals.

[74] Progress on prudential regulation and three areas to complete, Andrew Bailey, FCA, At the City Banquet, Mansion House, London, 22 October 2015.

Annex H

Alleged Financial Reporting Benefits of Separation are False

H.1. That full statutory accounts would improve transparency of cost and asset allocations

Ofcom has suggested that:

"As a legally separate subsidiary Openreach would be required to file full statutory accounts, including a separate balance sheet, profit and loss statement, and cash flow. This would improve transparency of cost and asset allocations. "[75]

The legal incorporation of Openreach would not provide any additional transparency of cost and asset allocations. The financial information disclosed by Openreach (including that required by the Undertakings and by International Financial Reporting Standards for the whole of BT including Openreach) is substantial and already includes, and indeed goes well beyond, all material disclosures that a separately incorporated entity would be required to make. Stakeholders would gain no new relevant information from the incorporation.

H.1.1 Financial information published in accordance with the Undertakings

Section 5.31 of the Undertakings already provides for the annual publication of the results of Openreach as if it were a standalone entity.

The requirements are that:

"… the regulatory financial statements of BT will also separately present the financial results of AS [i.e. Openreach]. …

Information about the financial results of AS will include the following:

- *headline revenue;*
- *cost of sales (or gross margin);*
- *SG&A [Sales, General and Administrative costs];*
- *EBITDA [Earnings before Interest Tax, Depreciation and Amortisation];*
- *depreciation;*
- *operating profit and capital expenditure;*
- *revenues broken down into the broad product groups that the AS provides and further split between internal and external sales;*

[75] Para. 6.69, Initial Conclusions.

- *separately identified payments to other parts of BT for products that form inputs to AS products (e.g. electronics); and*

- *a commentary that explains any changes in the basis within which the above figures are presented.*

For example, published information in respect of the 2014-15 results and can be found on pages 116 to 120 of the *Revised Current Cost Financial Statement 2015 including Openreach Undertakings* published on 2 December 2015 and available on *http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2015/index.htm.*

In addition to the information listed above, the published information also includes a breakdown of operating costs and the balance sheet (or more precisely the mean capital employed, being the average of opening and closing balances) by cost and asset category respectively.

H.1.2 Financial information published in accordance with International Financial Reporting Standards

Furthermore, the key information concerning Openreach must also be disclosed in the Annual Report and Form 20-F of BT Group plc under the requirements of International Financial Reporting Standard (IFRS) No 8 Segmental Reporting. We consider that Openreach is a "reportable segment" within the definition of the standard. IFRS8 paragraph 23 provides that:

An entity shall report a measure of profit or loss for each reportable segment.

An entity shall report a measure of total assets and liabilities for each reportable segment…

An entity shall also disclose the following about each reportable segment ….:

(a) revenues from external customers;

(b) revenues from transactions with other operating segments of the same entity;

…

(e) depreciation and amortisation.

The most recent published information for BT Group plc is in respect of its 2015-16 results and can be found on pages 181 to 184 of the *BT Group plc Annual Report and Form 20-F* published on 4 May 2016, available on:
http://www.btplc.com/Sharesandperformance/Annualreportandreview/index.htm.

In addition, Section 5.31 of the Undertakings requires that: *BT's regulatory financial statements will reconcile AS's [Openreach's] revenue and operating profit (and other such items as may be agreed between BT and Ofcom) with information about AS shown in BT Group plc's annual report and accounts.*

H.1.3 Further financial information

In addition to the above, BT publishes the revenue, EBITDA, capital expenditure and free cash flow for Openreach in BT's full year and quarterly results press releases, together with supporting commentary and analysis. BT also publishes extensive additional key performance data on the reports made available on BT's website. See, for example, the Openreach section of BT's Strategic Report in the Annual Report and Form 20-F (pages 85 to 90).

H.2. That [legal] separation would remove BT's incentives to allocate costs in a way that favours the wider BT Group

In the February Statement, Ofcom reported that respondents argued that BT has allocated costs between different products in a discriminatory manner and that BT's vertically-integrated structure gave it an incentive to increase the reported cost of regulated services or benefit its downstream businesses.[76] Ofcom explained that:

"We have taken a range of steps to ensure that BT's current attribution rules are appropriate; its ability to change them in future is controlled; and the reasons for, and impact of, any changes are transparent".[77]

We will keep under review BT's current attribution rules and its ability to change them in future. However, BT will always have the incentive to choose attribution rules that increase the reported cost of regulated services or favour its downstream divisions compared to other competitors. Despite the steps described above, the complex nature of BT's regulatory accounts, and inherent information asymmetry mean that the risk of inappropriate allocations going undetected cannot be entirely avoided.[78]

The risk of inappropriate allocations is miniscule as Ofcom has four levels of protection against the possibility that BT might inappropriately allocate costs:

- First, Ofcom imposes one of the most comprehensive accounting separation regime in the world on BT, and one which provides a huge level and degree of detail transparent to all CPs. Further these regulatory accounts are audited by auditors with a dual reporting responsibility, to Ofcom as well as to BT;
- Second, Ofcom has recently assumed the powers to determine the cost allocation methodologies by which costs are allocated.[79] So BT does not have the power to allocate costs in the way that Ofcom fears might distort competition, as in the quote above, BT faces certainty that Ofcom will over-rule any allocations that it deems inappropriate;

76 Paras. 6.42 and 6.44, Initial Conclusions.
77 Ibid 6.45.
78 Ibid 6.46.
79 Regulatory Financial Reporting Final Statement, Ofcom, Statement 2014, page 1. Ofcom said then that the changes it was making would: *"(i) give Ofcom a greater role in the way that BT prepares its regulatory financial statements; (ii) improve the presentation of the published regulatory financial statements and supporting documentation; and (iii) ensure that Ofcom and other stakeholders have the information that they need."* http://stakeholders.ofcom.org.uk/binaries/consultations/bt-transparency/statement/financial-reporting-statement-may14.pdf

- Third, in every charge control that Ofcom has imposed on Openreach, Ofcom has adjusted the costs from those published in the Regulatory Financial Statements to define the set of costs that it thinks is appropriate to include in the costs stacks for the charge control. So even before it took formal powers over allocation methodologies, Ofcom in any event only included costs allocated in the manner it thought fit; and

- Fourth, Ofcom has recently conducted a study of cost allocation using independent external consultants. It is surprising that Ofcom makes no mention of this cost allocation review here; as Ofcom is aware and failed to mention in the Proposal the consultants considered that, while an alternative allocation might be more appropriate, BT had not acted improperly.[80]

Ofcom also confirmed the purpose of the financial statements, quoting the European Commission Recommendation.[81] In summary, they should:

- ensure that fair, objective and transparent criteria are followed by notified operators in allocating their costs;

- reflect as closely as possible the performance of parts of the notified operator's business as if they had operated as separate businesses;

- prevent discrimination in favour of their own activities and to prevent unfair cross-subsidy;

- be capable of reporting regulatory financial information to demonstrate full compliance with regulatory obligations; and

- be of such detail that to ensure that there has been no undue discrimination between the provisions of services internally and those provided externally, and allow identification of the average cost of services and the method by which costs have been calculated.

Given these purposes, and the powers which Ofcom has, there should be no concern over BT's alleged incentives to allocate costs in a way that favours the wider BT Group and disadvantages CPs.

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80 Cartesian BT Cost Attribution Review, Redacted Version for Publication, 8th June 2015. Cartesian concluded (emphasis added): "*<u>Overall, Cartesian is satisfied that BT's cost attribution system is free from bias</u>. However there are areas of weakness that BT could improve on. This is perhaps unsurprising given the scale and complexity of BT's cost attribution system*."

81 Regulatory Financial Reporting Final Statement, Ofcom, Statement 2014, paragraph 2.16, quoting Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications, OJ L 266, 11.10.2005.

Annex I

Rebuttals to CP responses

Assessment of submissions by other Communications Providers to Ofcom's Digital Communications Review

Ofcom's July 2015 consultation document[82] invited stakeholder comments on a number of issues.

Ofcom received over 130 responses from communications providers, industry bodies, user groups, government/public bodies and private individuals and businesses. Ofcom summarised the key issues raised across all responses in Annex 1 to its initial conclusions document published in February 2016[83].

BT has reviewed both Annex 1 and the detail within the publicly available versions of stakeholder submissions,[84] to consider the evidence and arguments put forward that may have influenced Ofcom's conclusion in the February document that there was a need to "significantly strengthen Openreach independence" and/or influenced the specific set of proposals to achieve that set out in Ofcom's preferred model. This annex focuses on the key points made by other communications providers (CPs) in this context. Overall, the CP submissions revealed differences in opinion on how well the market has been performing, what regulatory change is warranted and on the strategic direction that Ofcom should pursue. In summary:

- **CityFibre** focusses on supporting *"pro-competitive fibre infrastructure investment"*[85] and avoiding any regulation of Openreach as a natural monopoly and any access level interventions that remove value from investments – such as the introduction of a new obligation on BT to supply dark fibre as set in the Business Connectivity Market Review. CityFibre clearly envisages that there is commercial scope for some targeted entry via FTTP deployment over the coming decade, but see that potential regulatory interventions adversely impact expected future cashflows on such investments. CityFibre does not support separation of Openreach.

- **Colt** states that regulation has *"generally been successful"* in its stated aim of introducing competition and notes that in international comparisons the UK performs *"relatively well on some measures and less well on others"* [86], but does not set out any detailed analysis of current market conditions or the factors that influence current outcomes. Rather, it argues that a forward-looking innovative approach to assessing the needs of the future should be taken, and sets out why it believes a regulatory approach based on "Deep Passive Access" will best support increased competition, innovation and investment at the access layer. Colt acknowledges the significant cost

[82] Ofcom, Strategic Review of Digital Communications: Discussion document, July 2015.
[83] Ofcom, Making communications work for everyone, 25 February 2016, Annex 1: http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/digital-comms-review/DCR_Annexes.pdf
[84] http://stakeholders.ofcom.org.uk/consultations/dcr-discussion/?showResponses=true
[85] 2015 Digital Communications Review Non---Confidential Version Response Submitted by CityFibre Infrastructure Holdings PLC 8th October 2015, Executive Summary.
[86] Ofcom Strategic Review of Digital Communications, Reply by Colt Technology Services, page 2.

of structural remedies and believe that most of the problems they purport to identify can be addressed by a focus on Deep Passive Access. Colt's response does not present any firm evidence or analysis on the benefits it believes would flow from a focus on Deep Passive Access, or on what such a focus would mean in practice in terms of what specific products Openreach would supply and on what terms.

- **KCOM** argues against structural separation and against increased regulation of either passive or active access services, noting that this would lead to a significant amount of disruption for the entire industry.

- **Sky** argues for structural separation and claims that vertical integration has caused a number of "competition problems".

- **SSE** argues for legal separation of Openreach, with emphasis on the need for a regime which supports service-based competition. However, SSE's submission does not set out any detailed evidence in support of its assertions about current market problems.

- **TalkTalk Group** (TTG) argues that the UK needs a *"fibre-optic railroad of the 21st century"*[87] and suggests that structural separation of Openreach from the rest of BT will increase competition and encourage investment in *"transformative new technology and infrastructure*"[88] required to deliver this.

- **Vodafone** calls for structural separation of Openreach passive infrastructure assets and places particular emphasis on the need for an improved regime for duct and pole access under SMP regulation in order to encourage infrastructure-based competition. However, as a fall-back from this primary demand, it proposes structural separation of Openreach in its current form.

Following publication of Ofcom's Initial Conclusions document in February 2016, Sky, TalkTalk and Vodafone produced a joint "10 point plan"[89] setting out measures, short of the full structural separation they had called for in their individual responses to the July 2015 consultation, for addressing Ofcom's stated concerns about increasing Openreach independence with continued BT ownership. This was followed by a more detailed report by **Towerhouse Consulting**[90] on behalf of Sky, TalkTalk and Vodafone which set out a specific model for how Openreach should operate as an independent, legally separate company.

In the July 2016 document setting out its preferred model, Ofcom considers some of the evidence and arguments put forward by those CPs calling for increased Openreach independence. As detailed in Section 3.4 of the main BT response, many of the points made are dismissed by Ofcom, while Ofcom states that other points can be addressed through SMP

87 Ofcom Strategic Review of Digital Communications TalkTalk Response to July 2015 discussion document, page 1.

88 Ofcom Strategic Review of Digital Communications TalkTalk Response to July 2015 discussion document, page 2.

89 A 10 Point Plan for a Better Openreach - An industry proposal for reform of the national communications network to better serve UK consumers and businesses, at https://corporate.sky.com/documents/media-center/news-releases/2016/10_point_plan_for_a_better_openreach.pdf

90 Towerhouse Consulting, 6 May 2016: "Legal separation of Openreach from BT - necessary steps to secure effective independence, transparency and to promote competition and investment: A report for Sky, TalkTalk and Vodafone".

regulation or increased network competition – i.e. they are not considered relevant to the debate around Openreach independence and governance. For completeness, however, BT provides more detail on the points raised by other CPs with particular focus on those allegations and arguments made in support of structural separation (and, by extension, more extreme forms of functional separation with retained BT ownership) – i.e. the submissions from Sky, TalkTalk and Vodafone.

The contents of this annex are as follows:

I.1: Sky submission, October 2015[91]

Sky's basic thesis in its response to the July 2015 consultation was that vertical integration creates "competition problems" and that the risks to competition have materialised in a number of ways, including:

- diminishing retail competition in superfast broadband;
- competitive distortions stemming from the underlying economics of BT's vertical integration;
- BT's raising the costs of its rivals through inappropriate cost allocations;
- Openreach's unresponsiveness to its external customers;
- BT's investment priority and management focus; and
- poor Openreach service quality.

Sky specifically argues that the issues it raises are sufficient to merit a reference to the Competition and Markets Authority (CMA) for a market investigation and states that "*Ofcom's review* [i.e. the Strategic Review of Digital Communications] *should not become… a debate about whether or not BT should be structurally separated*", i.e. Sky's key argument is that Ofcom should make a referral and that *the CMA* should consider the case for separation. Nevertheless, the points raised by Sky are clearly constructed to demonstrate that there are problems in the market that relate to vertical integration and would ultimately support a case for changes to BT's structure. BT does not consider that Sky's allegations support Ofcom's initial conclusions on the need for increased Openreach independence and its preferred model.

1. Alleged evidence of "competition problems" (paragraphs 19 to 36)

a. Allegation of diminishing retail competition in superfast broadband

Allegation	BT comment
BT Retail accounts for at least 74% of all SFBB lines on the Openreach network compared to 40% for all broadband connections on the network.[92]	Sky quotes specific figures from March 2015. Figures from March 2016 show that downstream BT accounts for 69% of SFBB lines on the Openreach network. However, this data point chooses to ignore the market leader in terms of speed and share from the analysis, Virgin Media. BT's higher share of superfast connections on the Openreach network does not demonstrate a competition problem at the retail level when all the competitors are

[91] Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document: http://stakeholders.ofcom.org.uk/binaries/consultations/dcr_discussion/responses/Sky.pdf.

[92] para. 20, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

Allegation	BT comment
	properly included, having a share of 39% across all providers (including Virgin Media). Openreach supplies copper (LLU, WLR) and fibre (GEA) access services on EOI terms providing downstream providers with the choice of supplying SBB or SFBB services to meet the needs of customers. Openreach's charges for the supply of copper access services are regulated by cost-based controls and Openreach's charges for GEA must comply with the so-called "VULA margin" SMP remedy, designed to ensure efficient downstream competitors can compete effectively in the downstream retail market. All downstream retail broadband suppliers utilising the Openreach network offer a similar portfolio of SBB and SFBB broadband services with different upload and download headline speeds and different monthly usage allowances. These services are then offered in a range of dual, triple and quad play bundles, reflecting the downstream supplier's capabilities to offer premium TV and/or mobile services alongside the broadband portfolio. The share – or "uptake" as some CPs refer – of SFBB bundles compared to SBB bundles for different suppliers will reflect their chosen commercial strategies based on utilising the EOI Openreach inputs – i.e. the structure of pricing across their portfolio of bundled broadband services and the level of sales promotion undertaken to sell different bundles to new customers and to attempt to upgrade existing customers onto higher speed services. The overall uptake of SFBB is higher for downstream BT than for non-BT CPs, including TTG. This reflects the different commercial approaches taken by BT, TTG and Sky since Openreach began supplying GEA in 2009. BT has looked to actively encourage its SBB customers to upgrade to SFBB services, while other CPs appear to have used SFBB as a retention/acquisition driver where customers have clear demand for faster speeds at a price premium. It is notable that Virgin Media has moved nearly all of its broadband base onto superfast broadband speeds over recent years and that almost half of its broadband customers now take one of its "Vivid" services offering

Allegation	BT comment
	"ultrafast" speeds in excess of 100Mb/s[93]. At a total base of 4.8 million broadband customers in the UK at the end of June 2016, Virgin Media therefore has the largest base of customers taking superfast or ultrafast speed services. Furthermore, while current shares of SFBB connections are lower for Sky and TalkTalk compared to shares of total broadband connections, these CPs are taking an ever increasing share of overall net adds of SFBB on the Openreach network: in June 2012, non-BT CPs accounted for 10% of net adds; in June 2014, this had increased to 30%; and in June 2016, the figure was close to 50%. This suggests shifts in their own commercial strategies. There is also no evidence that differences in the uptake of SFBB are resulting in "diminishing retail competition" in the overall market for the provision of broadband services, i.e. covering standard and superfast access speeds. Indeed, since the launch of fibre broadband in 2009, BT estimates that Sky has grown its overall base and share of broadband lines faster than any other provider, including BT. In the year to June 2016, Sky stated that it added 347,000 broadband customers[94] while over the same period, BT added 287,000 new customers.[95] Finally, since April 2015, BT has been required to demonstrate compliance with the so-called "VULA margin" SMP remedy. The remedy has been designed to ensure that efficient CPs should be able to purchase VULA inputs from Openreach (i.e. GEA) and compete profitably in acquiring new superfast broadband customers. This further demonstrates that there is no competition problem relating to the supply of SFBB services.
Going forward BT is forecasting a large share of new retail SFBB subscribers.[96]	This relates to data supplied to Ofcom as part of the 2014 Fixed Access Market Review and would reflect forecasts submitted by other CPs to Openreach ahead of that time. While BT has no insight into the drivers of CP forecasts, it should not be inferred that a lower forecast non-BT CP take-up of SFBB services is indicative of a competition problem.

93 http://www.libertyglobal.com/pdf/fixed-income/Virgin-Media-Fixed-Income-Q2-2016-Report-FINAL.pdf, page 4.

94 https://corporate.sky.com/documents/investors/results/q4%201516%20press%20release.pdf , page 6.

95 http://www.btplc.com/Sharesandperformance/Quarterlyresults/2016-2017/Q1/Downloads/KPIs/Q116-KPIs.pdf Sheet 8, "Broadband, TV and lines", net change in base Q1 16/17 vs Q1 15/16 net off acquired EE base of 951k (footnote 6).

96 Para. 21, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

Allegation	BT comment
	As noted above, superfast services can be supplied profitably using GEA in competition with BT and Virgin. The fact that CPs choose to adopt different strategies in seeking to acquire and retain customers for the supply of broadband should not be interpreted as an underlying problem with market structures and, given the ongoing strength of competition across standard and superfast services, is entirely consistent with effective competition.

b. "Competitive distortions stemming from the underlying economics of BT's vertical integration"

Allegation	BT comment
Transfer charges are "wooden dollars" whereas CPs face actual economic costs.[97]	This is not true. The standard EOI prices from Openreach access services in SMP markets appear as transfer charges in the reported figures of all downstream BT divisions. They are then captured within BT's reported quarterly results for each customer facing line of business. The level of the transfer charges will therefore drive reported costs and margins for each line of business. These disaggregated results within BT Group are used by investors to assess the individual performance of BT's lines of business in valuing the company overall. These transfer charges also affect commercial decision making within BT since the level of transfer charges for Openreach EOI inputs is fully captured in all downstream product line P&Ls , pricing decisions for these downstream products will treat those charges as marginal costs of supply. BT notes that Ofcom has stated that this issue is not one which is relevant to the case for changing the current model of separation.[98]
BT Retail, upgrading a standard broadband customer to fibre is loss-making on paper but overall at the BT Group level it is profitable.[99]	This is untrue. As noted above, BT Ofcom's VULA margin test is passed. This test includes Openreach EOI prices/transfer charges, other downstream costs driven by the acquisition of new customers as well as allowances towards a defined share of common costs. It also makes certain upward adjustments to BT's costs to reflect

97 Para. 22, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.
98 Para. 6.11, Initial Conclusions.
99 Para. 23, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

	perceived disadvantages faced by other CPs due to scale and/or other commercial matters.

c. "BT's ability to raise costs of rivals through inappropriate cost allocation"

Allegation	BT comment
A review of BT's cost attribution methodologies' 12 June 2015 provisionally concluded that BT wrongly allocated £262m to regulated products.[100]	This is not true. The correct assertion is that Ofcom chose to change the cost allocation. BT produces audited regulatory accounts to a highly detailed level to support regulatory assessments. This involves allocations of significant common costs. BT has always provided full transparency on the methodologies used within its accounts. In 2014/15, Ofcom reviewed the vast majority of allocation methodologies and identified some areas where different cost drivers were considered more appropriate. These changes have been made. The appropriateness of methodologies may change over time. As described in Annex H to the Response, Ofcom has put in place new processes to allow it to assess the reasons for any proposed changes and the potential scale of impact before BT makes changes in its reported accounts. This directly limits any ability BT has to raise rivals' costs via "inappropriate allocations". All allocations methodologies must be objectively justifiable and fair.

d. "Openreach's unresponsiveness to external customers"

Allegation	BT comment
75% of BT Group raised SoRs delivered within 2 years; vs non BT-Group SoRs 69%.[101]	There has been no discrimination in delivering SoRs for CPs other than BT downstream as set out in evidence previously supplied by BT (see Annex 2 of the BT Response to the Discussion Document, page 165). Further, Ofcom has stated:

[100] Footnote 12, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

[101] Table 1, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

Allegation	**BT comment**
	A1.186 *We looked at the issue of product discrimination as part of our SOR monitoring programme. Our analysis did not find any significant differences in SOR acceptance rates and completion times between products or between downstream communications providers including BT. We did find that Openreach accepts a significantly higher proportion of its own SORs than of downstream communications providers. There are a number of legitimate reasons why this may be the case. For example, Openreach has a clearer view of product development costs than any one communications provider.*[102] Furthermore, in December 2015, David Wheeldon of Sky, said: *"We are not alleging that BT Retail is favoured by BT Openreach in the treatment of customers. That would be a step too far and it is not an allegation we would make." ….."Openreach cannot favour BT Retail and, as I say, I do not think we have any evidence to suggest that it does do that."* [103]

e. "BT's investment priority and management focus"

Allegation	**BT comment**
BT Group did not provide Openreach with any additional funds to invest in roll out of SFBB network. FTTC achieved without any substantial increase in capex budget.[104]	This is not true. BT has invested over £3bn in rolling out its SFBB network since 2009. BT has been under no obligation to spend a given level of capex on Openreach, but has demonstrated a willingness to invest where an assessment of future supply and demand/customer willingness to pay indicates that this would drive incremental cashflows over a reasonable time period. Furthermore, BT has increased the share of total capex spend on the Openreach network since 2009. In 2009/10, 36% of Group capex was spent by Openreach; in 2015/16, that figure was 59% or £1.4bn. Gross capex in Openreach

102 Para A1.186, annex to the Initial Conclusions: http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/digital-comms-review/DCR_Annexes.pdf

103 Select Committee appearance on 1 December 2015.

104 paras. 27- 29, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

Allegation	BT comment
	in 2016/17 is budgeted to be [✂] higher than it was five years previously. Moreover, the assertion takes no account of the increasing efficiency of spend in Openreach's investment programme, such that more is delivered for each pound spent.
Future investments are likely to be managed within current capex levels.[105]	Sky has absolutely no basis for making such an assertion, not being privy to BT's investment plans. In any event, as the current capital expenditure envelope is much greater than it was five years ago (up 30% on a Net basis and 50% on a Gross basis), if BT were to sustain investment at this level, the country would benefit. BT's plans include £6bn further investment in fibre broadband and mobile services, as well as specific plans for fast broadband for all, superfast broadband to over 95%, ultrafast to 10m premises and FTTP to 2m premises by 2020.
Openreach investment capability influenced by financial performance of other BT divisions – eg Global services.[106]	Openreach's plans are not dependent on the financial performance of other BT divisions. Investment in Openreach is determined by customer demand, financial performance and investment cases in Openreach.
In order to rollout FTTC Openreach has reduced capex investment elsewhere – mainly in capital maintenance of underlying copper and duct network.[107]	This is untrue. BT investment in the copper network has not fallen. Sky makes an observation about the total level of investment undertaken by BT and fails to reflect on the sufficiency of this investment to ensure ongoing provision of service. BT's own services are reliant on the underlying copper and duct network, and – alongside meeting any regulatory obligations – BT has every incentive to maintain the network so that its own services can be successfully delivered. As noted, the overall level of investment – and focus of that investment – in SFBB has been driven by a forward looking assessment of supply and demand conditions. BT invested ahead of recognised demand and willingness to pay for higher speed services and in an environment of rapid technological change. Investments have been supported by projections of future cashflows, noting significant risks and uncertainties.

105 Para. 28, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

106 Paras. 27-29, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

107 Paras. 27-29, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

Allegation	BT comment
Underinvestment has adversely impacted network reliability – increased fault rates[108] and long provisioning times.	BT does accept the fault rate increased at a modest rate between end of 2011 and early 2015. One cause of this was the greater use of the network resulting from BT's access investments as more customers take broadband and are online for longer in an internet economy. Customers are also using their connections for ever more demanding applications, such as TV. Regarding provisioning, 93% of new lines are being installed on time, whilst 84% of faults are being fixed within two working days.
During this time, Openreach has punched above its weight in contributing to Group EBITDA and cashflow.[109]	For the majority of services, Openreach operates in a regulated set of markets where regulation has been designed to promote efficiency, investment and innovation, while providing Openreach with the opportunity to earn a fair rate of return. Ofcom already exercises a high degree of scrutiny over BT's regulated accounts. Openreach accounts for by far the largest component of BT's capital employed: in terms of its return on capital employed Openreach is below the Group average, not above it – "punching below its weight" in other words, not above.
Openreach has earned £4bn (Ofcom) to £5.5bn (Frontier) above its cost of capital "despite the vast majority of Openreach's services being subject to regulated charge controls."[110]	This is untrue. In fact, on wholesale services sold by Openreach to CPs which were subject to regulated charge controls, the profit earned was almost exactly in line with that needed to cover the cost of capital. This is explained in the EY Regulatory Profitability Report appended to the Response.

f. "Poor Openreach service quality"

BT addresses the arguments raised around service quality in Annex C of the Response.

Structural separation would deliver significant benefits

Sky's view on the benefits of separation relies heavily on assumptions about how upstream and downstream suppliers would interact with each other were they to be separated. Sky largely ignores the limitations and difficulties of establishing contractual relationships to replace the coordination across the value chain which is possible under vertical integration

108 Para. 34, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

109 Para. 31, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

110 Para. 32, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

and does not reflect the fact that Openreach supplies all access products on an EOI basis to all downstream suppliers.

a. Increased competition

Allegation	BT comment
Sky suggests that BT's downstream retail's business should be forced to tender for its access requirements. Sky suggests that this could transform the viability of other access providers and place increased pressure on Openreach to compete for all downstream volumes. The suggestion is that increased contestability of BT Retail's business would mean that upstream providers would invest more to increase[111] the attractiveness of offerings.	In making this argument, Sky both: (i) acknowledges the importance of having committed downstream customers to support upstream access network investments, a key benefit of vertical integration; and (ii) indicates there is significant scope for alternative upstream investment. This would be a relevant factor to consider under the requirements of article 13a in justifying the imposition of a specific form of functional separation. Sky does not comment on this fact.

b. Increased investment

Openreach's strategic direction is either 'crowded out' by other BT Group objectives or manipulated to deliver wider benefits to the Group.[112]	In arguing that separation would create improved investment opportunities, Sky ignores the fact that Openreach must supply access products on equivalent terms to all downstream operators. The suggestion that Openreach could choose an investment strategy that favoured one downstream supplier over another is not borne out by reality. While Sky has criticised Openreach's investment choices, it has not been disadvantaged in downstream markets and there is no evidence that Openreach's decisions were taken at the expense of alternative approaches which would have been preferable for downstream CPs.
There are a "myriad of ways" in which firms are able to support substantial new investments in situations without vertical integration.[113]	There may, in theory, be ways of supporting investments without vertical integration, but the question should be what works best. Telecoms suppliers are overwhelmingly integrated, which indicates what works best in practice.

111 Para. 55, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

112 Para. 62, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

113 Para. 72, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

	Integration is especially important where technology is fast moving and demand uncertainty is significant.
Separation has not been a disaster in New Zealand.[114]	Fibre take-up in New Zealand is far lower than in the UK, as are average connection speeds, despite huge public subsidies.
Openreach could co-ordinate with all customers not just BT Retail to help underwrite significant investments. This could include co-investment models, anchor tenancy agreements or minimum guarantees which would be "significantly more effective in mitigating investment risk than the current model".[115]	As set out in the Response and in the report by Compass Lexecon, such arrangements face various challenges, and a general lack of precedent for such arrangements being used to upgrade regulated access markets suggests that these challenges are significant. Co-investment is unlikely to be suitable for new and emerging technologies where there is a great deal of contractual complexity and hence they are more suitable for investments involving standard facilities.
Need not entail Openreach investing more itself (though this is likely); downstream operators would be inclined to invest more themselves.[116]	There has been and is nothing preventing Sky or other CPs from investing in competition with Openreach under the current structure. Despite Sky's arguments in favour of co-investment, neither it nor other CPs have shown as appetite for this to date and, as such, no proposals have been presented to Openreach.

c. Openreach would focus on its core business

Sky alleges that in a structural separation model, Openreach would focus on its core business and not have its strategic direction 'crowded out' by other BT Group objectives or 'manipulated' to deliver wider benefits to the Group[117]. This is simply a general assertion that ignores the risks that a separated company would focus on short term cash generation with limited strategic vision and /or would be more risk averse when considering investing ahead of any established demand.

There is no example of a structural separation or quasi-structural separation model working anywhere in the world.

d. Deregulation

Sky suggests that separation would lead to significant deregulation. This is unlikely to be the case – separated companies in UK utilities remain subject to range of regulations covering

[114] Para. 11, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.
[115] Para. 60, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.
[116] Para. 60, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.
[117] Para. 62, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

their prices, service levels and social obligations. Ofcom has not suggested that this would not also be the case for Openreach were it to be formed as a separate company.

e. BT's objections to separation are without merit

Allegation	BT comment
Claim is made that assertions on transitional costs are overblown[118] • BT spun off Cellnet in 2002 • Telecom New Zealand separated Chorus and Spark in a "straightforward way" • Openreach demerger would be "order of magnitude more straightforward" than integration of EE • As Openreach already functionally separate from rest of BT, a great deal of work already done	Sky underestimates the issues involved and separation would be hugely costly and disruptive. This is set out in Sections 4.9–4.10 of the Response.

2. The UK would benefit from investment in FTTP

It is notable that, unlike Ofcom, Sky does not directly position its concerns around vertical integration in the context of concerns with investment in FTTP or suggest that separation would, of itself, create the opportunity for increased commercial FTTP roll out. Rather, Sky positions FTTP in a public policy context, suggesting that benefits may justify public support for investment.

Specifically, Sky suggests:[119]

- it is evident that there is strong support for FTTP in other parts of world, including elsewhere in EU;
- there is "no doubt that [FTTP networks are] expensive to roll out at scale… and private returns may be insufficient to support development"; and
- it is notable that governments play a role in financing widespread FTTP.

[118] Para. 67, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

[119] Paras. 96-99, Sky's Response to Ofcom's Strategic Review of Digital Communications – Discussion Document.

A universal, or near universal, FTTP network would involve massive capital cost, running into tens of billions of pounds and take a very long time to deploy (for example, there would be a need to dig under driveways throughout the UK). Sky does not attempt to make the case that such costs would be proportionate to the benefits, whether on a public or private basis. BT agrees with the observation that a widespread deployment FTTP has not been achieved anywhere without significant government support.

I.2: TalkTalk submission, October 2015

In its response to the July 2015 consultation, TalkTalk Group (TTG) argues that the UK needs a "fibre-optic railroad of the 21st century"[120] and suggests that structural separation of Openreach from the rest of BT will increase competition and allow investment in the "transformative new technology and infrastructure" required to deliver this.

There is significant overlap between many of the points raised by TTG and those raised by Sky. TTG also rely on a report by Frontier to support the central claim that vertical integration gives rise to incentives for BT to discriminate.

Issues raised by TTG in "Section 2: Current Issues"

In this section, TTG sets out evidence on the current health of the UK telecoms market in the context of assessing whether the market is "fit to deliver the innovation, investment and choice" it considers are needed in the future.

Argument 1: "Fixed competition is weakening fast"

TalkTalk argument	BT comments
BT has a high share in retail superfast broadband	BT's analysis of competition in relation to SFBB has been set out in response to similar comments raised by Sky. In summary, BT's share of retail SFBB connections is lower than that of Virgin Media. Differences in "uptake" of SFBB between suppliers reflects the different commercial strategies pursued by broadband providers since 2009. It does not reflect underlying "competition problems" around the provision of EOI access services from Openreach.
TTG's low share of SFBB connections is not due to rational commercial strategies as claimed by BT but it is not profitable for CPs to sell more SFBB	There is no evidence to support the claim that it is "not profitable" for TTG to sell more SFBB – the claim is not consistent with the public statements of TalkTalk's CEO. The "VULA margin" SMP obligation on BT is designed to ensure that efficient CPs can use Openreach inputs, including GEA, to supply profitable SFBB services to customers in competition with BT. BT is compliant with the requirements of this remedy. As such, TTG and any other efficient CPs will be able to compete against BT's prices for SFBB bundles and acquire profitable customers. Rather than claiming that SFBB is "not profitable", TTG appears to be suggesting that the economics surrounding the decision to supply SBB or SFBB to a customer are less favourable to them than to BT. TTG claims that while the marginal cost they face when acquiring an SFBB customer is around £8 per month - i.e. the monthly GEA rental charge

120 1.5.

TalkTalk argument	BT comments
	to be paid to Openreach - the marginal cost to BT of acquiring an SFBB customer is only around £1 per month. BT disputes TTG's claim that the marginal cost to BT is £1 and no detailed underlying evidence is put forward to support this. The figure appears to come from a report from WIK last updated in 2014, which attempted to estimate the costs faced by Openreach in rolling out FTTC. The outputs of the WIK model reflected a series of assumptions around BT's capital spend, operating costs, future take-up and asset lives, and was designed to produce a price that would allow BT to recover the costs of supplying FTTC over a 40 year period. The modelling approach and assumptions had no relationship with the basis on which BT decided to invest in FTTC ahead of any firm demand/willingness to pay for higher speed access services and did not seem to consider how demand for speed and/or competition might evolve over the extended modelling period. The marginal cost figure of £1 quoted by TTG appears to take the price alleged to allow recovery of all costs over the assumed 40 year period, including original capital outlay to support rollout, and then exclude any contributions to such fixed costs. Putting aside the unreliability of the specific marginal cost figure quoted, the implication is that BT would be content to acquire any new SFBB customer covering the underlying marginal costs of supply rather than any EOI price. However this assumption ignores the existing regulatory constraints within which BT must operate and the way in which these impact decision making across the different lines of business. BT's overarching objective is to sell SFBB services at prices that will ultimately allow the recovery of all capital expenditure within a reasonable time period. This was the very basis on which decisions to invest in new technology to increase access network capabilities were taken. As noted above, Openreach is *required* to supply GEA on EOI terms and downstream BT is *required* to supply retail SFBB bundles on terms that pass the "VULA margin" test. BT must therefore ensure that: (i) the standard EOI price for GEA that must be applied to *all* connections is set above marginal cost, such that each connection will contribute to the full recovery of fixed investment costs over time; and (ii) the retail price is set to recover the full GEA EOI price and

TalkTalk argument	BT comments
	more than any marginal costs faced *downstream*[121] in order to pass the VULA margin test based on a 'LRIC+' view of costs. CPs are commercially free to choose to acquire SFBB customers on terms that allow the recovery of GEA EOI price and *only* any other truly marginal costs. As such, CPs are arguably at an advantage to downstream BT in the flexibility they face in setting their commercial strategy. BT also notes that TTG's implied logic in claiming BT faces advantages seems similar to that used by Sky in claiming that internal transfer charges are simply "wooden dollars". That is simply not the case and fails to reflect the way BT operates as distinct lines of business and makes commercial decisions and how BT reports profitability to investors. In short, downstream pricing decisions will reflect the full upstream EOI prices from Openreach.
BT's rapidly increasing share of all retail broadband	BT's share of retail broadband connections has increased since 2009, but it remains substantially lower than any other former incumbent operator in Europe, in the most competitive market in Europe. There is no evidence to support the implication that this reflects underlying "competition problems" and TTG's assertion ignores the performance of other market players, most notably Sky. TTG highlights changes in BT's share of the broadband market between 2009 and Q1 2015. The total base of customers taking broadband services increased by over 30% from 18.7m to 24.4m during this period and we estimate that the strongest growth in absolute customer volumes and in share during this period has been from Sky. Sky's customer volumes grew by over 3 million between 2009 and 2015 and Sky's share has increased from around 14% to around 24%. As noted, this growth has been at a time where Sky pursued a very different strategy in relation to SFBB to that adopted by downstream BT, showing that Sky's performance in acquiring and retaining customers is not affected by different rates of SFBB uptake. Sky's growth has been built in part by the acquisition of the Easynet customer base, but mainly by strong promotion of triple-play cross-sales to its sizeable base of premium TV customers.

121 The test works to ensure that the LRIC+ test is passed on average across all newly acquired customers within a six month period.

TalkTalk argument	BT comments
	That different downstream players have seen different changes in customer volumes and market shares during this period is unsurprising in a rapidly evolving market and given the increasing importance of triple play. BT has reacted to the changing market by investing in its own triple play offerings and in pay TV content via BT Sport. Differences in performance in a growing innovative market are to be expected and should be viewed as evidence that the market is functioning effectively rather than of “competition problems”.
BT’s abnormally high share of SME market	Openreach EOI inputs support the downstream provision of business services supplied by BT and other CPs in competitive markets. The nature of services supplied to SMEs is changing rapidly through the increased use of IP voice services and converged solutions where BT is not the market leader.
TTG states that “there have been no significant new entrants in the last five years”	Over ten years, the two major LLU operators have gone from 0% to over 40% of the retail broadband market, a record that it unmatched in any other EU country. TalkTalk’s comment ignores the rapid changes seen in retail markets in the period following the creation of Openreach and provision of regulated copper access services on EOI terms. This supported investment in LLU and competitive supply of broadband services, and new entrants have built out networks which cover to over 90% of BT exchange buildings. As shown above, there has been ongoing innovation and change in the supply of broadband services in the period since 2009 and no evidence that competition problems are preventing effective competition and limiting choice for consumers.

Argument 2: "Fixed investment and quality is poor"

TalkTalk argument	Actual Position
Investment and innovation in fixed networks has been inadequate BT's fibre investment has been "unimpressive" – focussed on sweating copper assets and on FTTC/g.fast rather than FTTP	Openreach investments in fibre have been made ahead of recognised demand and willingness to pay and are therefore based on risky, forward-looking assessments of the potential for network upgrades to generate incremental cashflows. Technological developments provided the opportunity for Openreach to utilise some existing access network assets while delivering increased access speeds. This has enabled the roll-out of SFBB services at a faster pace and at a lower cost that alternatives such as FTTP. It is unclear why TTG views such investment as "unimpressive" and on what commercial basis TTG argues that a different investment strategy could have been pursued.
The majority (or at least a very large part) of BT's total fibre investment has come from tax-payers[122]	This is not correct. Government funds have been used to enable service to non-commercial parts of the UK and thus contribute to coverage in the UK projected to reach 95%, ahead of further measures aimed at increasing this to near universal coverage. Analysys Mason estimate the government will contribute around 1/3rd of all fibre investment by Openreach, equivalent to about 10% of the projected funding cost in Australia.[123]
BT has strategically avoided business parks and some business areas—ostensibly to avoid cannibalisation of their own high price and high margin leased Line business eg London's Tech City[124]	Installing fibre in urban areas can be challenging, but with new techniques and extra investment, BT has been able to reach hundreds of thousands of additional homes and businesses across London. BT announced in 2015 that an additional 32,000 more homes and businesses in Tech City, spanning parts of London boroughs from Hackney to the City of Westminster, are to receive fibre.[125]
Service quality has been extremely poor in recent years, mainly due to a reduction in investment and resources. TTG quotes a number of performance figures to suggest that	BT's position on service issues is set out at Annex B of the Response.

[122] 2.20.
[123] Analysys Mason International Benchmarking Report, September 2105.
[124] 2.20.
[125] https://intra.bt.com/News/Pages/Were-expanding-fibre-reach-across-London.aspx

TalkTalk argument	Actual Position
Openreach has underinvested in the network	

Issues raised by TTG in "Section 3: Structural separation"

In this Section, TTG sets out its view that the "best strategic solution to deliver improved competition and investment in the fixed market is to structurally separate Openreach from BT". TTG argues that separation will deliver a level playing field to benefit retail competition and stimulate greater investment and quality of service.

TalkTalk argument	BT comments
Openreach has the ability and incentive to discriminate in favour of BT's downstream businesses and this gives rise to "harmful effects". TTG rely on the Frontier Report to show "harmful effects"	This assertion is made without consideration of existing regulatory constraints and ignores the incentives on Openreach to supply services to all downstream players. BT's comments on the assertions in the Frontier Report are set out in the next table below.
BT's competitors have little incentive to upgrade customers to fibre. BT's marginal FTTC cost is about £1 per customer per month whereas the marginal costs for other CPs is about £8	TTG repeat the arguments made in Section 2 about competition in the provision of SFBB. These are dealt with above.
Openreach shows discrimination in the way it develops and supplies certain products[126]	These arguments have been rejected by Ofcom as justifying separation[127] and as having occurred in practice by the EAB.[128]
If Openreach were structurally separate, the extensive behavioural regulations designed to tackle anti-discrimination could be lifted – for example, equivalence requirements[129]	It is far from clear why TTG's assertion would hold. A structurally separate Openreach would retain SMP in a number of key access markets and would continue to provide access services from those markets on equivalent terms. The assumption that non-equivalence may be allowed under structural separation appears to support all subsequent assertions about the increased opportunities for investment and/or co-investment that could arise.

126 See Annex A of the Response.
127 Para. 6.12, Initial conclusions.
128 See Annex D of the Response.
129 3.24.

TalkTalk argument	BT comments
Structural separation would allow Openreach to develop co-investment and risk-sharing agreements with multiple customers if structurally separate[130]	It is unclear how co-investment and risk-sharing could co-exist with Openreach's equivalence obligation. In addition, it is recognised that developing effective long-term contractual arrangements to support co-investment and risk-sharing is complex. This complexity and the fact that contracts cannot cover every eventuality gives rise to concerns that structural separation would lead to investment hold-up and lower investment than under vertical integration. Furthermore, to the extent that it is believed such complexities could be overcome and to the extent that obligations to supply all access products on EOI terms was not viewed as a barrier to co-investment, there are and have been no barriers for such arrangements emerging under the current functional separation model. No proposals for such arrangements have been made to Openreach.
TTG suggests that vertical integration means that Openreach's strategy and investment capability is constrained by "its status as a subsidiary of a large corporate, focussed on aggressive expansion of its retail and mobile businesses." TTG, supported by a report by Richard Feasey, suggests that Openreach would be more effective as an independent, publicly listed company.	This ignores the fact that the underlying market fundamentals would remain the same regardless of ownership – i.e. costs of alternative technological solutions, demand and willingness to pay for higher capabilities, competitor threats – but structural separation would remove the benefits of having a strategically aligned, anchor tenant supporting the investment. It is the wider Group's overall strategy of looking to grow profitable revenue that has driven the investments in SFBB capabilities in the access network and no attempt has been made to propose alternative investment strategies that could have been pursued to drive sufficient incremental cashflows.
Openreach does not need BT Group for access to capital and R&D	As is well-known, R&D cannot easily be traded, i.e. sourced externally, which is why R&D is usually conduced in-house. It is not a question as to whether Openreach can access finance, but whether it will have as strong an incentive to invest if it was not to have a committed retailer to market new services.
Openreach does not need BT Retail as an "anchor tenant": Openreach could partner with other CPs, providing it with more anchor tenants / BT Retail could collaborate with other CPs[131]	Contracting is costly, complicated and ineffective in many circumstances, and integration is a means to avoid the difficulties this poses.

130 3.25.
131 1.2.

TalkTalk argument	BT comments
There is no evidence that low take-up of fibre in New Zealand is due to separation[132]	TTG does not argue, understandably, that either Australia or New Zealand have been successful examples of structural separation. An issue that TTG does not address is the difficulty faced in New Zealand caused by the fact that the access providers (Chorus is not the only contractor for the government) do not have a retail arm and therefore have no ability to stimulate demand by organising marketing activity to push new access services.
Implementation will not be difficult or costly: Implementation costs of separation will not be as complex as BT claims[133]	This is covered in Sections 4.9–4.10 of the Response. Separation would be both costly and complex.
BT's defined benefit pension scheme is not an impediment to a demerger - John Ralfe Pensions Report[134]	The issue of the impact of separation on BT's pension scheme is discussed in Section 4.9.2

Annex to TTG response: Frontier Economics, "BT's incentive to distort and discriminate due to vertical integration: A report prepared for TalkTalk Group", November 2015

TTG asked Frontier to consider "how the creation of a structurally separate Openreach could improve the effectiveness of downstream competition". Frontier states that it "considered evidence on the degree to which BT has been able to effectively discriminate under the current model of functional separation". Frontier then purports to present evidence that BT has been able to discriminate. BT's overall view is that Frontier's report either (i) makes claims that are false or (ii) simply describes textbook "theories of harm" which are already addressed by regulation.

As a general point, it is notable that Frontier fails to give weight to the existence of Virgin Media and other access network providers in considering the incentives on Openreach to provide inputs to all downstream suppliers on terms that will allow them to compete efficiently and effectively. It is simply assumed that if a downstream rival is 'harmed', then this will benefit BT overall. The risk of customers churning away from the Openreach network onto rival operators is completely ignored. Furthermore, in highlighting particular concerns arising with new technologies, such as SFBB, Frontier fails to assess the incentives Openreach will face to encourage incremental sales of SFBB by non-BT CPs when those CPs may be able to satisfy

132 3.51.
133 3.3.5.
134 3.59.

customer requirements through SBB services based on ongoing rental of LLU services only. The indirect constraints from retail competition will frame Openreach's approach.

Frontier contention	BT comments
As BT Wholesale/Consumer does not use MPF services to deliver voice and broadband services, BT has little incentive to minimise the cost of using MPF, including any ancillary charges related to co-location.	**False** - MPF is subject to direct price control by Ofcom, with very challenging efficiency targets, so Openreach has every incentive to minimise costs. This also applies to ancillary services.
While MPF and SMPF+WLR are regulated based on cost, BT has an incentive to try and attribute relatively more costs to MPF than would be explained by differences in the product definitions	**False** - Ofcom have been involved in setting price differential between these services for ten years, based on a forensic consideration of the actual cost differences; and Ofcom deliberately under-priced MPF relative to WLR to aid entrants like TTG.
BT has no incentive to maintain the quality of service for MPF, to the degree that this can be differentiated from WLR+SMPF	**False** –BT's incentives are not relevant as quality of service for both products is regulated.
Openreach has pricing flexibility, can use this to price external services higher than internal	**False** – On average, Openreach has earned higher margins on internal sales than external.
Structural separation and removal of discrimination in relation to "raising rivals costs"	**Not evidence of harm** – Frontier simply describes incentives which the current model of separation *already* addresses. It is not evidence that BT has acted on these incentives and, were it to do so, it would be in breach of its obligations.
Structural separation and improvement in allocative efficiency	**Not evidence of harm -** this is no more than basic theory around discrimination as opposed to evidence that regulation has been ineffective in prohibiting harmful discrimination.
The creation of a separated Openreach would fully remove the ability of BT to engage in "an anti-competitive margin compression strategy"	**Not evidence of harm -** Ofcom already monitors for a margin squeeze, and BT has consistently demonstrated it is passing the test. BT has not engaged in a margin squeeze, or "an anti-competitive margin compression strategy".
Structural separation and transition to a new technology	**Not evidence of harm** – Frontier explain "[a]nother potential theory of harm" which is that "BT may have relatively strong incentives to migrate customers to SFBB". BT does not see this as harmful; the section is certainly not evidence of harm.

Frontier contention	BT comments
BT may have an incentive to reduce the overall quality of its wholesale offering	**Not evidence of harm** – Frontier set out another "potential theory of harm", that consumers tend to trust more in the well established brands. Even on the assumption that such a theory is correct, then the obvious remedy is to regulate service levels, as Ofcom now does. The basic contention that BT wilfully degrades its own product for competitive advantage is ridiculous. Moreover, BT's competitors also have established brands.

I.3: Vodafone submission

Vodafone argues that since the start of BT's FTTC roll-out, "longer-term competition has been undermined by the regulatory freedom given to BT." Vodafone also alleges that Openreach's provision of wholesale access services is characterised by poor quality of service and high profitability. Vodafone suggests that the problems are best addressed by supporting multi-operator investment in access networks via improved access to ducts and poles.

Vodafone's primary demand is for structural separation of Openreach's "passive infrastructure assets" with a fall-back position that "if the environment for multi-operator investment cannot be delivered then the current Openreach should be structurally separated…"

The table below summarises the key arguments made by Vodafone in supporting their demand for structural separation.

Vodafone argument	BT Response
There has been a "worrying reversal in competitive intensity" in broadband. Vodafone suggests that Ofcom's decision to allow Openreach to provide a "layer 2 wholesale bitstream product on its NGA platform" has created competition problems, evidenced by downstream BT's high share of SFBB connections and net adds.	Vodafone implies that Openreach's provision of VULA/GEA (positioned as a "layer 2 wholesale bitstream product") has led to competition issues. This repeats the flawed arguments made by Sky and TalkTalk and are addressed in BT's comments in those sections.
The Undertakings allow Group to influence Openreach strategy and investment. Vodafone argues that the scope for certain BT personnel to have sight of and influence Openreach strategic decisions and technology choices can impact on competition. Vodafone also argues that regulatory oversight is lacking ahead of investment decisions being taken. This is linked to a suggestion that Openreach does not consult effectively with customers to consider the impacts of investment decisions before they are made.	BT addresses the issue of historic customer consultation in Annex C of the Response and BT's proposed new model for Openreach sets out changes to the way customers can engage moving forward. No evidence is presented to show the specific harm that is alleged to arise for CPs as a result of previous Openreach investment decisions, or what alternative approaches should have been adopted.

Vodafone argument	BT Response
Regulation has allowed Openreach to earn excess profits. Vodafone references a report from Frontier Economics looking at costs and revenues in SMP markets since 2005.	EY's report on regulatory profits assessing Frontier's assessment and the relevance to regulatory matters is appended to the Response. EY found that the difference between charges and costs for all services subject to direct price controls (including external and internal sales) was £1.1bn over a ten year period (2005/6 to 2014/15). EY estimate this to be equivalent to a margin above cost of about 2.2%. External customers (all CPs combined) paid £0.2bn more than outturn costs over the period. Looking exclusively at those services provided by Openreach, EY found that, on services subject to direct price controls sold to external customers, Openreach actually made a small *loss* of £20m over the period.
BT benefits from incumbency and there is an asymmetry of risk between BT and other players arising from regulatory approach "*we find that Openreach and BT deliver greater profitability than the rest of the industry combined … [which] demonstrates the asymmetry of risk that applies to investments of BT and CPs: A number of CPs have invested heavily in LLU… This investment became stranded when BT (with Ofcom's support) decided to offer an NGA product, GEA, which does not require local network reach.*[135] "…*despite the inclusion of VULA services in the reported WLA returns in the last two years, this has not resulted in BT being unable to earn a return equal to its cost of capital across the WLA market. This suggests that VULA, which is not currently charge controlled, is not in a period of 'start up losses' where penetration is too low to cover fixed costs*."[136]	Vodafone is effectively complaining about the existence of dynamic competition which inevitably means older technologies see a gradual loss of demand as customers switch to new, better-performing services. But BT's investments in NGA have not left CP's LLU-based access investments 'stranded' - CP's continue to utilise their investment to supply broadband services by utilising their own exchange equipment (as well as, for superfast customers, renting virtual paths from Openreach). Vodafone's claim that Openreach is not facing 'start up losses' in relation to VULA is simply untrue and, in any event, could not be demonstrated by reference to the returns shown across the whole WLA market in BT's regulatory accounts. VULA costs and revenues are only a subset of total costs and revenues in the WLA market. Furthermore, the upfront, fixed investment costs associated with the rollout of VULA are – in line with specific RFS accounting treatments – depreciated over a number of years following straight-line depreciation. Reported 'in year' returns for VULA in the RFS does not provide insight into the extent to which upfront capital spend has been recovered. BT's business case for the NGA investment shows that payback on the first wave of NGA technology (VDSL2+) will not be achieved until after 2020 and Ofcom is aware that further waves of investment are now planned to enhance access speeds.

135 Page 31.
136 Page 31.

Vodafone argument	BT Response
BT has benefited from government funding of its fibre roll-out in BDUK areas Vodafone raises issues of public funding and related matters, it states: "*BT has enjoyed the fruits of BDUK not-spot funding to extend its network and increase its asset base. The NAO estimates that BT has enjoyed £1.7billion of public funding to deliver superfast broadband into areas that were understood to be not commercially viable. The advantages of incumbency were clear … And despite this funding, the final 5% of the UK remains without broadband. It feels inconceivable that BT should be able to obtain more funds, virtually uncontested, to extend its network reach …*"[137]	Regarding coverage, BT has also made proposals to deliver broadband at a minimum speed of 10 Mbps on a commercial basis to 99% of UK premises without state aid or a USO fund.[138]
Experiences in Portugal and Spain show that "*with determined regulatory action far greater fixed network competition can be ensured than Ofcom considered possible*". [139]	As explained in Section 3.4 of the Response, independent reviews of experience in other countries caution against making general assertions in view of important country differences. It is not the case that other countries benefit from "far greater fixed network competition" than has benefitted the UK. Annex A of the Response explains why FTTP is commercially challenging in the UK. FTTC is cheaper, quicker to deploy and achieves much better coverage.
Vertical integration presents BT's management with too many competing demands on their limited time and capital resources Vodafone states: "… *[integration] prevents the efficient financing of Openreach to the detriment of its*	This is similar to points raised by TTG about Openreach's position within a larger corporate group. These points are considered above. Vodafone makes an additional suggestion that an independent Openreach would face a lower cost of capital, reducing its investment costs and expanding investment opportunities.

137 Page 32.
138 Strengthening Openreach's independence: BT's Notification to Ofcom under section 89C of the Communications Act 2003 and Application to vary its Undertakings given to Ofcom pursuant to Section 154 of the Enterprise Act 2002, 18/7/16.
139 Page 38.

Vodafone argument	BT Response
performance, and makes BT a more complex business and limits its capacity to leverage debt against the utility-like cashflows of the Openreach business (thereby raising its cost of capital)".[140]	This is pure speculation by Vodafone and appears in any event to be based on Vodafone's view that all Openreach cashflows are "utility-like" – i.e. low risk with established demand and limited, if any, competition. But the context here is the suggestion that Openreach could be investing more in higher cost and higher capability access services – by their nature such investments would carry significant risk around future cashflows given uncertainties around the premium customers would be willing to pay, on average, for increased access speeds. Furthermore, Vodafone is also calling for Openreach to supply passive infrastructure to other investors to allow them to roll-out parallel networks, further adding to demand uncertainties and risk around any Openreach cashflows, including for the supply of existing copper access services. More generally, BT is currently an established end-to-end integrated communications provider, operating to a clear strategy and delivering against a range of financial targets. Any change in ownership structure would change the overall risk profile of the BT businesses, risking increases in the cost of raising capital.
Existing arrangements allow Openreach to discriminate in favour of BT's own downstream interests and against those of its rivals. Vodafone give examples of potential discrimination, eg, BT Retail does not buy Openreach or BT Wholesale products on the same terms; new product development by Openreach is biased towards the interests of BT's downstream businesses. Discrimination in areas such as a delivery of services or repairs is often very difficult to detect (often not been subject to explicit performance targets in the past).[141]	The allegations made are simply untrue and would put Openreach in breach of obligations not to discriminate and to provide service on an EoI basis. Competition would not have thrived in the UK as it has – with the most competitive market amongst major countries as shown in Section 3 - were these allegations to be true.

[140] Page 41.
[141] Page 42.

Vodafone argument	**BT Response**
A wholesale only business could succeed. Vodafone seek to refute the argument on anchor tenancy in the context of FTTH: "*We do know that many other firms in other sectors appear able to make large, irreversible capital investments without owning the downstream network which sells the resulting product, and that quite a number of the FTTH networks deployed elsewhere in Europe (e.g. in Sweden and the Netherlands) have been 'wholesale only' businesses which do not operate their own retail operations*)"	FTTH is commercially challenging in the UK, which is better-suited to FTTC. A different organisational structure will not change this, as explained in Section 3. Countries like Sweden have been investing in FTTH since the 1990s, with large public sector involvement and funding. Neither Australia nor New Zealand recommend the formation of a wholesale only business model, even with heavy public subsidies and in a monopoly market.
There is a need to promote multi-operator investment in FTTP/FTTH. Vodafone draw on Ofcom's WIK report, "… *that access competition, particularly from FTTH providers, does not arise from the regulator taking a 'technology' neutral stance. FTTH competition develops if regulators or Governments take a positive decision to promote it*". Vodafone again propose measures to promote competition based around access to Openreach's passive assets	WIK also caution against inferring that what is the right policy in one country (eg no EoI for FTTP in Portugal) would be right for a country with very different characteristics. BT is improving access to its passive infrastructure as described in Annex E of the Response.

I.4: Towerhouse Consulting, 6 May 2016: "Legal separation of Openreach from BT - necessary steps to secure effective independence, transparency and to promote competition and investment: A report for Sky, TalkTalk and Vodafone"

The Towerhouse report sets out a number of proposals for how Openreach could operate as an independent, legally separate company under BT ownership.

As an introduction/context for its proposals, Towerhouse largely reports back Ofcom's own statements in its Initial Conclusions. Towerhouse's objective is to identify a model which "starts with all the benefits of structural separation and then seeks to reduce or avoid costs without compromising the overall outcome". As such, Towerhouse effectively takes as a given that the benefits of vertical integration are outweighed by the competition problems vertical integration is alleged to cause. BT does not accept this starting point as set out in Section 4 and in the economic report by Compass Lexecon. Furthermore, the alleged "competition problems" necessary for the imposition of an intrusive functional separation remedy simply do not exist, as discussed extensively in the Response.

BT has identified a number of significant materially adverse consequences arising from the Ofcom Proposals in relation to the governance of Openreach at Section 4 of the Response. The Towerhouse Proposal – in similarly proposing a distinct, fully incorporated Openreach – suffers the same fundamental defects, which are summarised below. BT therefore reiterates in full the objections set out in Section 4 of the Response, and makes the following points by way of summary (without prejudice to the generality of BT's critique in Section 4 of the Response).

Towerhouse Proposal	BT comment
1: BT must establish Openreach as a separate company 2: Openreach's Articles of Association should limit the objects of the company (ie "line of business" restrictions needed)	• Towerhouse acknowledge, but underplay, implementation costs: "There are some issues (such as BT's pension scheme, and the treatment of wayleaves) that raise implementation issues that require attention, but there are no grounds for believing they are insurmountable." • This model would be **harmful to investment**, diverting investment from the network at a crucial juncture. • This model has **few/no examples of success anywhere**. When this model was implemented in Sweden, network investment significantly reduced for four years and ultimately has proven to have little benefit compared to the other more pragmatic elements of functional separation implemented in Sweden. • It's **hugely disruptive to employees and pensioners**: It would raise enormous legal / administrative difficulties, including employee transfers (TUPE); and pensions / Crown Guarantee: see Section 4.9 of the Response. The main trade unions that represent our workforce are against legal separation for these reasons. It would create costs that could otherwise be used to invest in improved service and network infrastructure.

Towerhouse Proposal	BT comment
	• It **prevents good corporate governance**: Ofcom itself acknowledges the legal and practical difficulties, as well as the issue of reconciling legal separation with the corporate governance responsibilities and legal duties of the main BT Board. • The model is **unnecessary**: Ofcom has also admitted that it wouldn't change the amount of regulation that Openreach needs. Sharon White has noted at the CMS Select Committee on 12 April 2016 that: "What does not go away is the fact that [Openreach] is a company that has significant market power in a number of markets, and that needs to be regulated."
3: Openreach must have an independent board and senior management *[Openreach Board members and senior management should all be independent of BT. A majority of directors should be independent of Openreach. It is especially important that the Chair is independent (both of BT and of Openreach management)].*	• This would be consistent with the intention of putting BT in the position of being a 'passive minority investor' with no special influence over the Openreach business by virtue of its ownership interest. • There is already **the Equality of Access Board:** Sharon White has also recognised its success, "…I think it has worked pretty well over the last 10 years." (Select Committee appearance on 12 April 2016). • Need to maintain good corporate governance: Ofcom itself has acknowledged the difficulty of reconciling legal separation with the **corporate governance responsibilities** and legal duties of the main BT Board. • **Lack of shareholder oversight could impact investment:** Openreach directors would have a legal responsibility to act in the interest of BT Group shareholders. There must be an ability for shareholders to impact the strategic oversight of the Board otherwise they may withdraw investment.
4: An Independent Monitoring Trustee appointed to oversee compliance	• This **duplicates the EAB:** We already have the Equality of Access Board – with the Equality of Access Office to monitor and adjudicate complaints – which has worked well over the last 10 years. • **Duplicates Ofcom**: Ofcom is already a robust regulator. We do not need an additional adjudicator either to monitor transition or adjudicate complaints. • This would only be necessary if legal separation is enforced and the case has not been made

Towerhouse Proposal	BT comment
5: All dealings between BT and Openreach must be arms-length contracts	• This would harm investment and innovation as it is not possible to contract efficiently for innovative services where demand is uncertain. Telecoms is not like other utilities where innovation is relatively low.
6: Openreach should operate finances and cash handling independently of BT 7: Openreach must be able to borrow independently and in its own name	• The case for full separation for Openreach has not been proved so such requirements are not justified.
8: Openreach must offer customers a non-discriminatory **co-investment model**	• It is not clear whether Towerhouse is suggesting that Openreach should actively invite CPs to invest capital in each and every investment plan or whether Openreach must just be receptive to any proposals made by CPs to do so. • However, Openreach customers already have the opportunity to propose alternative commercial models to support investments and no such offers have been received to date.
9: Openreach must set its own budget, Annual Report and regulated accounts	• **BT shareholders need oversight of their money**: Shareholders in BT Group cannot be expected to allow their money to fund Openreach without clear means of influencing how that money is spent or redistributed. The confusion may prevent new investors, thus harming the ability of Openreach to invest. • There must be an ability for shareholders to impact the strategic oversight of the Board otherwise they may withdraw investment.
10: Openreach must own (or lease from third parties, not BT) the assets it needs	• **Ownership of assets** is not fundamentally connected to achieving high quality operations. • **It's hugely disruptive to employees and pensioners**: It would raise enormous legal / administrative difficulties - Employee transfers (TUPE); and pensions / Crown Guarantee. The main trade unions that represent our workforce are against legal separation for these reasons. • **It's harmful to investment**: The detailed process of separating assets would require huge cost and delay, diverting investment from the network at a crucial juncture.
11: Openreach has its own corporate functions	• This only follows if it is shown that Openreach must be fully independent, but this case has not been made.

Towerhouse Proposal	BT comment
necessary to support its operations	
12: No sharing of systems or any other assets across Openreach and BT	• This would be very costly and divert resources away from far more productive investment in the network.
13: Openreach should employ its workforce directly	• This would have huge pensions implications (see Section 4.9.2 of the Response).
14: Openreach to be an independent voice on relevant policy and regulatory issues	• Openreach already has an independent voice on matters which do not concern BT Group.
15: Openreach's brand and livery must be entirely independent of BT	• **This is already the case**: Openreach already has its own name, a standalone corporate identity and brand, as well as separate systems/processes and HQ. It sets its own remuneration incentives that are unrelated to the performance of Group and it communicates regularly and independently with CPs, in line with the regulatory Undertakings.
16: Openreach must offer all services on an EOI/'one service for all' basis	• **This is already the case**: Openreach is required to serve CPs on strictly equal terms. That is why competition has flourished in the last 10 years. Even Dido Harding at TalkTalk agrees with that Jan 2016: "*The UK has long been one of the most competitive markets in Europe... Thanks to a thriving, competitive telecoms market, UK consumers enjoy some of the fastest speeds and lowest prices in Europe*." • **There is no evidence of discrimination**: competitors like Sky have admitted publicly that equal treatment is not an issue in reality. David Wheeldon, Sky, said: "*We are not alleging that BT Retail is favoured by BT Openreach in the treatment of customers. That would be a step too far and it is not an allegation we would make*." ….."*Openreach cannot favour BT Retail and, as I say, I do not think we have any evidence to suggest that it does do that."* - (Select Committee appearance on 1 December 2015).
17: Openreach must consult with all customers in setting strategy, plans and developing new services	• Openreach already consults extensively with customers (see Annex C of the Response).
18: Openreach must obtain buy-in from major	• Airports are monopolies and airlines have no choice as to what services to buy from their supplier. The position with regard to the

Towerhouse Proposal	BT comment
infrastructure investors in relation to major capital plans (whether via consultation or through some other form of engagement), cf Airports	CP and Openreach relationship is completely different – CPs do not always need to use Openreach and when they do they have a wide choice as to what services to buy. • Often **CPs are reluctant to financially commit**: when Openreach consulted on the fibre rollout in 2007/08 the likes of TalkTalk and Sky were reluctant about demand. • Jeremy Darroch in Nov 2010: "*If there is demand for fibre from our customers, we will look to provide that but we are not going to rush into that until we see real levels of customer demand that are attractive*." Dido Harding in May 2014: "*fibre is a premium product that really is only appealing to customers who've got poor broadband speeds*."
19: Openreach must provide 'open-book' accounting on its activities to its customers, including how costs are allocated amongst different services	• This is already provided by the Regulatory Accounts which BT publishes and which Ofcom continuously reviews and changes.
20: Separate unit within Openreach to sell passives	• No case for separation of the current Openreach has been made, let alone a case for further functional separation of passive assets. This would generate significant costs within Openreach and introduce further risk to future cashflows. These costs have not been justified by any assessment of expected benefits.
21: Open procurement principle: no purchase from OR without open procurement	• BT **can and does take Access Services from other providers**, including Colt and Virgin Media. An Openreach independent of BT would not. • Whether BT uses other providers depends on whether the right products are available at the right price, and at sufficient scale to enable commercially viable consumption. • This would entail a massive increase in regulation to monitor whether BT retail was "favouring" Openreach.
22: BT staff incentives should not include OR performance	• They should if BT staff are involved, e.g. CEO responsibility.
23: The IMT (Proposal 4) must report regularly on status	• Please see comment in relation to proposal 4 above.

Towerhouse Proposal	BT comment
24: The arrangements must be made on an enduring basis	• This is irrelevant as the case has not been made to implement the arrangements.

I.5: Submissions by other CPs

BT has also reviewed the evidence presented by other CPs in their submissions to the July 2015 consultation. Only SSE calls for increased separation but they provide little or no additional evidence to support such calls.

Scottish and Southern Electric (SSE)

SSE makes some brief points in response to certain of Ofcom's questions[142] to argue for legal separation of Openreach. BT has set out in the Main Document why the case for this Proposal has not been made, and that alternative governance changes are more proportionate. In general, BT notes that SSE's submission does not set out any firm evidence in support of its assertions about current market problems. Specific comments are set out below.

SSE argument	BT Response
"Openreach seems to reject a high proportion of [SoR] requests from non-BT providers on the basis of the request not being commercially attractive to Openreach".[143]	Openreach does not discriminate in this way as Ofcom has confirmed: "A1.186 *We looked at the issue of product discrimination as part of our SOR monitoring programme208. Our analysis did not find any significant differences in SOR acceptance rates and completion times between products or between downstream communications providers including BT. We did find that Openreach accepts a significantly higher proportion of its own SORs than of downstream communications providers. There are a number of legitimate reasons why this may be the case. For example, Openreach has a clearer view of product development costs than any one communications provider."*[144]
"… a more separated Openreach would have greater incentives to ensure that all its wholesale customers were able to use attractive wholesale products …[and] would have a genuine need to work with all its wholesale customers to find out what products they would like and to strive to provide them in order to maximise its income from the network assets it owns".[145]	This is addressed by the BT Proposal as set out in Section 5 of the Response.
"We agree with… the competitive concerns about Openreach	Ofcom have rejected this:

142 Specifically, Questions 11, 12, 13, 14, 15 and 16.
143 SSE Response, Page 19 http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/digital-comms-review/DCR_Annexes.pdf
144 A1.186, Initial Conclusions.
145 SSE Response, Page 20.

SSE argument	BT Response
performance that is poor in absolute terms: we believe that where customers have reason to be worried about performance issues, they are intuitively more willing to look for retail service from the brand that is associated with the whole supply chain" [146]	*While for some customers there may be a 'flight to brand' effect of poor quality of service, there is in our view no conclusive evidence to suggest that this benefits BT.*[147]
"In our view, the development of new products using Openreach infrastructure should be included in the Undertakings in view of the 'first mover' advantages that can currently accrue for BT" [148]	SSE ignores that BT's Undertakings, and EoI, already prevent it from exploiting 'first mover' advantages for new products.
We note the examples of legal separation mentioned in the consultation and believe that the Scottish Water model could provide a useful model to consider for Openreach. [149]	See Annex G of the Response for comments on possible models quoted by Ofcom. The latter is now a subsidiary of state-owned Scottish Water (which is a full monopoly) and maintains customer records and a billing system. Regarding this specific suggestion, the equivalent in BT terms would be for BT's retail business-facing unit to become a subsidiary of BT Group. It is therefore simply not comparable at all to making Openreach a subsidiary of BT Group, as BT explained in its response.
Given the degree of 'functional separation' already achieved, a move to legal separation may be relatively straightforward and less disruptive to industry to implement than other forms of 'structural separation'. Benefits are possible without the upheaval of ownership separation. [150]	BT agrees that the upheaval of ownership separation would be disproportionate.
Legal separation would automatically provide a greater accounting transparency for Openreach[151]	BT already provides very full accounting transparency for Openreach – see Annex H below.

146 SSE page 20.
147 A1.196, Initial Conclusions.
148 SSE page 20.
149 SSE page 20.
150 SSE page 21.
151 SSE page 21.