



Response to DCMS Future Telecoms Infrastructure Review: Call for Evidence

31 January 2018

Hyperoptic Introduction

Hyperoptic is a Code Power operator founded in 2011 by Dana Tobak and Boris Ivanovic. Hyperoptic is the largest provider of 1 Gb residential broadband in the UK. We focus on new FTTP infrastructure in urban areas and currently offer service across 30 cities with ambition to service significantly more. We have installed or are in the process of installing to over 400k residential homes and over 10k business units.

Hyperoptic was founded to bring the UK’s broadband infrastructure to the next level creating a new full fibre infrastructure, offering 1 Gb services and raising the level of expectations on the role of connectivity in British households and businesses. Customers get the wired speeds they expect and we have over 90 percent customer satisfaction rating consistently on our quarterly surveys.

To date, we have been expanding our network 100 percent year on year, and having recently secured 100m in debt funding. Our plans are to reach 2m homes passed by 2022 and 5m homes passed by 2025.

Currently, 50 percent of our footprint would, without Hyperoptic, be fibre-free with its residents only able to use ADSL often below 10Mbps – we are a key deliverer to whitespace areas and often target these areas having been neglected by other operators and network builders.

Products and Pricings

Hyperoptic offers three Broadband products available with or without a phone line, on either a monthly or annual contract. Here is the product information for our annual contract taken with a phone service.

Product Name	Price	Speed	Key Features
Fibre Broadband & Phone	£20 a month (for 12 months then £25 a month)	30 Mb	24/7 customer support, Phone service included, HyperHub router included, Good for PC and Wi-Fi devices
Fibre Broadband & Phone	£32 a month (for 12 months then £38 a month)	150 Mb	24/7 customer support, Phone service included, HyperHub router included, Great for streaming HD & gaming
Fibre Broadband & Phone	£49 a month (for 12 months then £63 a month)	1 Gb	24/7 customer support, Phone service included, HyperHub router included, Best for video, gaming & large files

Our current offers to customers demonstrates our commitment to value and accessibility of our full fibre products.

Financing

Hyperoptic is privately funded by Manager, Employees, and by investment from George Soros' private investment fund Quantum Strategic Partners. We have not received any BDUK or other public funds other than installation contributions from the Connected Voucher Scheme and Westminster Voucher Scheme.

In 2016, we received a €25m loan from the EIB to further expand our full fibre network.

In 2017, we received an additional £100m in funding from a consortium of European banks.

Response Questions

Question 1: What is the existing UK telecoms market structure and policy framework able to deliver?

- *When will it deliver and how certain can we be that it will fulfil the Government's ambitions for full fibre networks and 5G deployment?*
- *What will this mean for roll-out of these technologies and for competitive models in different geographic locations?*

The existing UK market structure is undergoing significant evolution both through natural market forces and as the result of regulatory, policy, and political forces.

Pre-2016 BT (through Openreach) and Virgin were the primary infrastructure owners for telecoms infrastructure with market share of 99%+. While many alternative providers were getting started focused on fulfilling supply of Full Fibre infrastructure which neither of the incumbents' offered, focusing instead on xDSL and DOCSIS technologies and utilising existing infrastructure.

In early 2016, Ofcom through the Digital Communications Review, concluded that there was insufficient infrastructure competition and called for a 3rd network to compete (hopefully with Full Fibre) with the Openreach and Virgin networks. Ofcom focused on the regulation and access to Openreach's duct and pole network to enable efficient provision of such competing networks. Simultaneously, the government announced the need for Full Fibre rather than 'interim technology part-fibre' as key to the UK's digital future, announcing over £1.2b of incentive through the form of an Investment Fund, 5G trials, and Local Full Fibre Network programme to incent investment in Full Fibre infrastructure. Through the Digital Economy Act changes have been enacted to ease the cost and administration burden of Wayleaves.

Many of these initiatives are still in their seed phases, and while full impact cannot be accurately forecasted, already it is demonstrating significant impetus as both incumbent and alternative networks have announced aggressive rollout plans for Full Fibre which would provide future proof connectivity for both fixed and wireless possibilities. As competition continues these plans are likely to become more aggressive rather than less so, and as such intention has been announced for more than 11m premises of Full Fibre by 2025 with intent for 20m on the horizon. While some of these premises may be served by multiple networks, operators will continue to seek rollout plans which offer first mover advantage given the opportunity for greater uptake.

Urban areas are likely to have directly competing infrastructure as Hyperoptic, CityFibre/Vodafone, and Openreach are all targeting these areas. Rural areas will be serviced by Openreach, Gigaclear and other alternative providers, perhaps competing, but more likely segregating given the longer payback periods and lack of density to justify competing networks.

Within 2 years, operators' strategies will settle and 'winners' for efficient infrastructure investment will emerge, while others may be acquired or remain niche focused. Take up rate (which will be the key driver of any business plan), will be determined by willingness of premises to contribute to the capital required to connect to the passing networks, or the willingness of operators to cover these costs through higher ongoing payments or initial capital contribution.

Governments' implementation and support for a residential voucher scheme will be a key factor in how the connection economics play out and contributed to wider fibre rollout.

Openreach has proposed 'enablers' to satisfy its own business case for Full Fibre rollout. And it may be very attractive to focus on satisfying those enablers to incent a faster Openreach rollout, however, it would be at the expense of ongoing competitive forces.

Enablers should only be considered if they are offered to all infrastructure providers equivalently. For example, an elongated fibre moratorium applied to all infrastructure builders is an incentive which will not disrupt competitive forces. However, forcing all ISPs wholesaling on Openreach's copper network to migrate all customers only to Openreach's fibre network distorts natural market competition as it doesn't allow all operators to fairly compete for those consumers.

Question 2: What barriers exist to long term investment in the UK telecoms market (beyond work underway by the Local Full Fibre Networks programme to stimulate demand, and by the Barrier Busting Taskforce to reduce build costs)?

- *What effect do existing revenue streams have on investment plans?*
- *What effect do visibility and predictability of returns have on investment plans?*
- *What is the effect of current infrastructure deployment models?*
- *What impact do current infrastructure sharing arrangements have on investment?*
- *What is the impact of the existing relationship between wholesale and retail markets?*
- *What changes to spectrum licensing and sharing could foster greater innovation and investment in 5G?*

Investors prefer consistency and predictability in the policy and regulatory environments as they relate to the ability of the business to create a long term business model in building new infrastructure. While normal competitive forces are expected and, in fact, desired, significant and dramatic changes or the fear of such, can exaggerate the normal risk of such investments.

Demonstrated ability to monetise new network build is key to investors decisions to further invest. However, where current revenue streams are dependent on existing infrastructure, it is harder for infrastructure providers to receive the return on investment in building new infrastructure unless consumers are willing to pay for that investment.

Therefore, the impact of existing revenue streams will differ in their impact on network builders incentive to upgrade or build anew.

Previous to 2016, competition was defined as product competition by those reselling Openreach's wholesale service. Prices were low and product differentiation nearly nil. With the emergence of alternative network providers and Virgin's project lightning more emphasis is on infrastructure competition which yields higher investment in new networks and better infrastructure for consumers and business. While wholesale models offer perceived choice for end consumers it has the moral hazard of one party determining the rate at which modernising should take place. Government should ensure that whatever incentives and market forces are deployed, long term infrastructure competition should prevail as a higher priority principle than speed of rollout.

Question 4: The Government wants to consider all market models that will facilitate the next generation of technologies.

Question 4.a: What different market models might work in the UK in the longer term, and what risks and opportunities do they present?*

- *What consequences could different market structures, including ones which support longer pay-back periods, have on the investment environment, competition and outcomes for consumers?*
- *How might these vary in different geographic areas of the UK, including urban and rural areas?*
- *Over what timescale could market models be changed, and what policy conditions would be necessary to enable this?*
- *Are the current arrangements for BT legal separation working effectively?*

Commenting on BT's legal separation, there are improvements from the previous regime but there are more complex dynamics at play. As Openreach includes both passive products and active products which make use of the passive products, there is an opportunity for mis-use of competitors' information and unequal information requirements.

- Openreach receive data from consumers of duct and pole access on forecasts, reservations, and daily location of engineers. While competitors do not receive any forecasts of Openreach's FTTP build.
- Currently under consultation as part of the WMLR is both the requirement of Openreach to make use of the Duct and Pole access product and for the potential use of that product for uses beyond FTTP. Until BT is required to use Duct and Pole access for FTTP, there will be an advantage for Openreach in that build out if only because the evolution of the DPA product will be too slow.
- As BT is also able to use its ducts for whatever it wishes despite SMP across multiple markets, it distorts other infrastructure builders investment cases for like network builds.

- Fundamentally, until Ofcom modernise the definition of markets to properly regulate Openreach, separation is only a half step.

Question 4.b: What should Government consider when assessing the potential for migration from copper to full fibre networks?

- *Over what time period could migration occur?*
- *What phases might migration be required to go through?*
- *What could be the pros and cons for markets and competition?*
- *What would the implications be for different groups of consumers?*

Government can set as a goal a migration to fibre from copper, but should not intervene in natural market forces. However, as first priority current switching processes which have been geared towards easy switching between providers wholesaling Openreach, should be expanded to support switching between infrastructure platforms. That ISPs can easily self-migrate from other ISPs on the same infrastructure platform becomes a barrier for the success of alternative platforms and supports Openreach's SMP position.

Market forces should give incentives for consumers to migrate or should be augmented by a voucher scheme that would be available for any infrastructure platform. Allowing Openreach to force migration of existing copper customers to a new fibre network at higher prices, would be bad for consumers and dis-incent investment in alternative networks who would want to compete properly for those consumers.

Question 5: The Government wants to achieve its digital infrastructure goal at the least additional cost. How should new digital infrastructure be paid for?

- *Are consumers (residential and business) willing and able to pay for new digital infrastructure, given its expected benefits?*
- *What could incentivise investors and shareholders to make long-term investment decisions in telecoms infrastructure?*
- *What is the potential role of government in stimulating demand or otherwise de-risking new infrastructure investment?*

Government should ensure that infrastructure builders have the same opportunities to build efficient networks as Openreach without favouring Openreach as a matter of course. This will ensure that new networks are built efficiently and competitively allowing usual economic forces to run. Infrastructure builders are beginning to operationalise new network build at scale, and such economies of scale need to be open to innovation before any direct government investment to benefit any one builder.

Alternatively, providers have built financial models which have appealed to investors based upon proof of efficient build costs and the ability to appeal to bandwidth hungry

consumers and businesses. Urban and rural areas differ in their cost model and balance of network build versus end consumer connections (lead-ins).

In both cases, incentive for consumers and businesses to switch to a new fibre network can be achieved through vouchers which then can be aggregated by suppliers in efficient ways to maximise network build while at the same time driving areas aggressively where the economic model does not require such contribution.

It is not government's role to de-risk new infrastructure investment but to ensure that such investment is accompanied by equivalent and favourable conditions and that intention to properly regulate Openreach as SMP should continue without favouritism.

- Government should prioritise infrastructure competition over speed of rollout, or it will find itself in an endless loop of needing to incent investment
- BT must be required to use the same duct and pole access product and processes as their competitors who choose to roll out new FTTP using Openreach ducts and poles
- Government should incent new applications for a future full fibre network through R and D programmes and partnerships with universities and the NHS. Thus stimulating demand while improving the eco-system for other engines of infrastructure.
- Government should appeal the ASA's decision to not differentiate in advertising Full Fibre. Consumer education is key to any move to the future, not to mention important to stop the market distorting practice of misleading consumers to believe that FTTC is the same as FTTP.
- Ofcom needs to ensure that Openreach separate their FTTP rollout team from the remainder of its infrastructure customer teams.
 - Parity of information about build plans is non-existent and is a barrier to network build.

To further incentivise investment, Government needs to ensure that Ofcom strongly and aggressively regulate DPA, consult on redefining the markets for market reviews, and ensure that any FTTP rollout by Openreach is required to use its own DPA.