



# Orange's response to Digital Britain – The Interim Report

on behalf of Orange Personal Communications Services Ltd

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## EXECUTIVE SUMMARY

Orange wants to achieve the Government's vision for a Digital Britain.

We believe the Government should provide a framework that supports organisations that are willing and able to invest, such as Orange backed by France Telecom. We propose to invest in:

- expanding our mobile network to deliver universal broadband, and allow other mobile operators to use it on a commercial basis, provided we are allocated 900 spectrum
- NGA alongside BT provided regulatory conditions allow for reasonable return on investment
- new, innovative and sophisticated services on these networks provided content is made available to us on reasonable terms.

Orange has the desire, expertise and backing to realise the vision of a Digital Britain.

### ***1. Orange, a major contributor to the UK economy***

With over 17 million Orange customers, and 16,500 people working on our behalf, we are a key investor and major contributor to the British economy, and a leader in the UK communications industry.

Orange has the most extensive 3G network of all four major mobile operators and has the largest integrated network. We also provide services to other operators, such as roaming for H3G.

Orange UK is an integral part of the France Telecom Group which last year posted revenues of 53.5 billion euros. The group has over 180m customers and operates in over 30 countries.

Orange has been – and will continue to be – a significant long-term investor in the UK and believes that its investment, innovation and convergent strategy positions it perfectly to help support the Government achieve the objectives and ambitions outlined in the Digital Britain report.

### ***2. Making Digital Britain a reality: ensuring a level playing field in order to provide 21<sup>st</sup> century services***

Orange proposes to extend its broadband mobile network to deliver Digital Britain universal service<sup>1</sup> at its own costs, provided that it is allocated a minimum of 2x5MHz contiguous spectrum in the 900MHz band within the frame of an equitable refarming for the industry. This is essential. It will allow competition for providing universal services and will prevent a long-term decline in competition. It should be noted by the Government that:

- Ofcom's current spectrum proposal is not an acceptable solution to the refarming problem, nor are they conducive to creating the progressive and ambitious environment outlined within the Digital Britain report
- Orange is actively supporting an industry solution for spectrum refarming
- Major mobile network operators must have equitable amounts of low and high frequencies

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<sup>1</sup> As defined by the BERR working group led by Peter Black (As defined in document "20090404 Inaugural Broadband USC Technical Group – MNO Modelaling.doc" published 03/03/2009)



- 900 spectrum for UMTS is most important and the 800 LTE spectrum, which will not be useful in the short and mid-term, is only complement to the 900MHz in the long-term.

### ***3. Converged digital services for Britain: considering networks and services together***

Orange is ready and willing to invest in Next Generation Access (NGA) and next generation mobile services in an open and competitive environment. Orange's strategy is one of convergence – delivering services to customers in a simple, seamless way, regardless of the bearer technology – and we urge the Government to consider the provision of both high quality networks and services together. An operator wanting to provide quality broadband can only do so with competitive conditions for wholesale ADSL, fibre and access to premium content. Investment needs an open market that provides:

- Access to content. This can only be achieved through action by Government and regulator as currently BSkyB is too dominant in the ownership of content. There will only be a level playing field if there is a wholesale content obligation and restrictions on the ability of BSkyB to leverage its dominant position in content into the retail broadband market.
- Competition in the locations outside of the NGA areas in order to ensure that there is Naked DSL and wholesale bitstream access for all at reasonable rates, allowing a wide range of providers to offer services.
- Competition between NGA networks insofar as is economically viable and allows for a reasonable rate of return.



## **Orange's overview of Digital Britain**

### **Orange**

Orange is the key brand of the France Telecom group, providing mobile, broadband, fixed-line telephony, business communications and entertainment services across Europe and beyond. It is one of the world's leading telecommunications operators with more than 180 million customers on five continents.

In the UK, Orange provides mobile coverage to 99% of the population and has 17 million customers – 16 million active mobile customers and over one million fixed broadband customers. It is, therefore, one of the UK's key converged communications providers.

Orange has the most extensive 3G network of all four major operators and has the largest integrated network. We also provide services to other operators such as roaming for H3G.

In June 2008, Orange UK launched its new strategy to improve, grow and evolve the company in mobile, broadband and beyond – something that positions it perfectly to support the Government in its ambition to create a truly Digital Britain, so long as the right regulatory and market conditions are in place.

### **Orange and Digital Britain**

The Interim Report showed that the Government's overall ambition to ensure digital communications are upgraded to meet the demands of a modern economy and provide benefits to all is aligned with the ambitions of Orange – namely to deliver services to the British people wherever they are, whenever they want, however they choose. With this in mind, the Government proposes five objectives: upgrading and modernising digital networks; a dynamic investment climate; high quality content; universal availability to enable near-universal economic and social participation; and, the on-line delivery of public services and business with the Government.

Orange supports the Government's Digital Britain vision and, as one of the biggest fixed and wireless network providers in the UK - and a significant investor in the British economy - Orange has the ability and desire to play a major part in achieving all of these objectives. However, this will require significant levels of investment from industry and for the Government to foster an environment that allows such investment by creating a level playing field and an appropriate regulatory and competitive conditions.

While much of the Digital Britain report, and this response, has to focus on the specific network development issues it is important not to underestimate what the result of such a significant technological expansion and upgrade plan will have for British citizens and the economy as a whole. If executed appropriately, it will bring this country well and truly into the 21st century.

### **Current situation**

Orange agrees in the need to improve and expand digital networks. This is particularly relevant to the UK as it already has one of the most successful and densely competitive digital markets. This situation has provided significant short-term benefit to the consumer but may not necessarily provide an environment for long-term investment and improvement. The Interim Report rightly stresses that such investment is needed for a competitive market in the UK in order to ensure that the country can compete in the long-term.

It is important to recognise that the main issues set out under separate Actions and Chapters in the Interim Report are linked and each objective cannot be achieved in isolation. With this in mind, Orange strongly believes that:

- Universal connectivity can only be achieved through a mix of wired and wireless technologies. High quality wireless networks, provided in a competitive environment, will only be available through the refarming of the 900 MHz band of spectrum.
- Digital Content and Next Generation Access are also intertwined as there will be limited and uncompetitive investment in NGA if a wider group of providers continues to be denied reasonable access to premium content. Without it there will be no incentive or means for a range of investors to upgrade the networks.
- There is genuine potential for competitive investment in NGA if the right market and regulatory conditions exist.

## **Digital Networks**

### *Next Generation Access Networks*

Orange is willing to invest in NGA that will help the Government achieve the objectives it has laid out for Digital Britain, but there are a number of competitive conditions that are essential in order to encourage and enable widespread investment. It is particularly important that a competitive and open content market is created so that investors have an incentive to improve networks.

### *Spectrum*

There is a significant market distortion because of the historic inequality in the allocation of spectrum. Without a fair redistribution, there will not be a level playing field and universal connectivity and the benefits that go with it cannot be achieved.

The lower frequency 900 MHz UMTS band must be reallocated so that its ability to provide greater coverage and greater indoor data levels can be used to achieve the key Digital Britain objectives. Unless the 900 MHz band is shared more equitably between mobile network operators those without it will struggle to provide services and compete effectively.

The possible availability of the 800 MHz LTE band is potentially positive, but cannot be compared with the confirmed benefits of the 900 band. While the 900 MHz band is already being used (with the potential for re-use), the 800 MHz will not be ready until much later and so cannot be realistically considered as part of a package to achieve universal connectivity. Such a situation means that the 900 MHz band needs to be reallocated fairly, and quickly.

## **Digital content**

Digital content cannot be viewed as separate to the core objective of providing access. If the industry is to invest successfully in NGA we need to have fair and equitable access to the content that people want. The likely end-game is that network providers will become distributors, and will therefore need products to distribute as reasons to invest in those distribution networks in order to ensure a balanced and competitive market.

Orange has very successfully distributed content to consumers in other European markets via TV, broadband and mobile handsets. However, the market for distributing content in the UK is particularly distorted when compared to other markets because of two major problems that block new entrants. Content is controlled by a combination of the dominant market power of BSkyB (through its premium content), and the content provided by publicly-funded public service broadcaster, the BBC. When this problem is combined with the ability of major distributors, such as BSkyB, to leverage their dominant position acts as a barrier to other ISPs - a problem not seen in other comparable markets to the same extent.

For a healthy, competitive market that allows investment in digital services, changes need to be made in order to open the market. There needs to be wider industry access to content, and restrictions need to be introduced to BSkyB from leveraging its dominance in content being to

distort the broadband market. There also needs to be an open system in place to ensure that content provided by the public service broadcasters is also genuinely available for all distributors, and that they are not discriminated against by a legacy system that favours BT.

### **Digital Rights**

Issues around peer-to-peer file sharing have been discussed for some time and are obviously important to those affected. Greater access to all types of digital content is needed as demand grows and so short-term solutions will have little success when technology is enabling the distribution of all content, legal or otherwise, to evolve and adapt exceedingly quickly.

As an ISP, Orange receives no benefit from customers sharing files, but is happy to explore appropriate measures further. An ISP-funded Rights Agency does not seem a fair way of doing this.

### **Universal Connectivity**

Orange has played a significant part in the rollout of both home and mobile broadband across the country through its significant investment in both fixed and wireless infrastructure. This combination of methods of broadband rollout has been very successful in providing services to the majority of people and must continue if the goal of universal availability is to be achieved. Again, providing universal connectivity is closely linked with the next generation access and spectrum areas of the Interim Report.

The solution for rolling out access undoubtedly needs a combination of fixed and wireless technologies. Use of the existing fixed copper network could provide 2 Mbps broadband to 93% of houses but the biggest challenge will come in delivering access to the final few percent of the population. Orange believes that better use and deployment of mobile networks, with a competitive re-farming of 900 UMTS MHz spectrum, would enable it to deliver mobile broadband to the areas that are currently lacking, pushing access up to 98.5%.

### **Equipping everyone to benefit from Digital Britain**

Few companies in the UK have a customer base as large and broad as Orange, and the ubiquity of mobile in particular has made digital technology available to the vast majority of people. Generally, those who have not taken up the advanced use of technology have done so out of choice, not because it is not available to them. These people risk exclusion from a changing, technologically-charged modern world, but there is significant potential for the Government to support and improve even those people's lives, through the use of technology in delivering effective and efficient public services. Orange already plays a role in both these aspects, by providing a technology education service to more than half of secondary schools and by being a major provider of services to the public sector. There are many areas of our business that are already focused on changing the way people live and work for the better at both a local Government and commercial level (such as the development of products that allow customers to pay for goods and travel through the mobile).

Orange is very supportive of the Government's desire to improve skills and deliver services and is keen to help meet these Digital Britain objectives. Orange also recognises the level of work going on in different areas of the Government on this essential project, but believes that the work could be more effective if it was co-ordinated more centrally as, currently, there is a risk of too many different but related schemes being progressed. With this in mind, Orange supports the recommendations of the Report as they should address this problem.



## **The State of the Communications Market**

As the Government's publication of the Digital Britain Interim Report marks such an important stage in thinking around the current and future digital communications capability of the UK, it is essential that it is considered alongside not just the existing market conditions, but also with regards to the direction the market is currently taking. This short section sets out Orange's view on expected consumer demand and how a viable long-term industry needs to develop.

### **The evolution of the consumer market**

While the communications market is one that has always moved quickly, there have been a series of trends that have gathered pace in the recent past and should be considered in the drive for the greater availability of digital services.

The conventional mobile market is now mature and deeply competitive in the UK. Where, only last decade, being able to make a call or send a message on the move was seen as revolutionary, mobile customers now regard voice and text (SMS) simply as standard, rather than the high value, progressive services that they still are. That's understandable in a country where mobile has become an everyday necessity in the vast majority of consumers lives, and the combination of this customer behaviour and expectation with greater regulation and competition has seen the retail price of these services fall sharply year on year. Instead, consumers now consider video clips, TV on the mobile and multimedia mobile services (geo-services, music, gaming, social networks, etc) as the services of value. At the same time, there is a consumer expectation of very low cost fixed broadband as a necessity.

Significantly for Digital Britain, most of these services are delivered by on-line companies (often based in the USA, like You Tube and Facebook) that generate most of their income through advertising and on-line payments but provide their services, at no cost to themselves, via other companies' mobile or fixed broadband networks.

### **The evolution of investment**

The communications services industry, both fixed and mobile, is at a major crossroads in terms of providing and improving access to services and the desire for further investments comes at a difficult time.

Network operators continue to make significant investments, face depreciation charges and loan reimbursements connected to the current generation of networks (ADSL and UMTS/HSDPA) and the 3G licence.

At the same time, long-term network providers face the challenge of investing in the next generation of fixed and mobile networks (NGA and LTE) and the prospect of possible spectrum auctions (digital dividend and 2.6GHz).

As a result, it is likely that the industry's current capex rate, around 10 to 13% of their revenues, will not decrease mid term.

### **The desire and need for convergence**

Given this situation, it is vital for fixed and mobile operators to climb the 'value chain' in the services and content they offer in order to be able to fund the required network evolution that would meet the ambition and objectives contained within the Digital Britain report.



Compared to the on-line companies, referred to above, that use the bandwidth provided by fixed and mobile operators at no cost to themselves, converged network operators can differentiate themselves by being the only ones capable of offering the ‘three screen’ (mobile, PC, TV), ubiquitous communications experience that customers increasingly desire and has already proved very successful in other countries, notably in Asia and Europe.

Convergence is also necessary to manage spectrum effectively. As the desire for mobile data rises, there will come a point - in 2018 - where there will be insufficient spectrum in the UK to accommodate it. Operators will need to divert mobile data traffic in the home to their fixed networks to prevent this.

This means that mobile operators have to move into the fixed market to remain competitive and sustainable and meet the demands of the data hungry customers. Orange and other major mobile players are either already, or plan to, pursue such strategies.

### **Regulatory environment and hurdles to development**

The UK’s existing fixed broadband regulatory environment, which was designed some years ago and consequently does not serve a market working within these developments, could prevent this crucial requirement from happening and could leave the UK less well placed than other European markets.

The current BT wholesale terms and conditions and the lack of availability of some basic services (such as naked ADSL) act as a deterrent to alternative providers and investment. The situation means that alternative providers are forced to seek sizeable scale, by promoting free fixed broadband offers that cannot be sustained indefinitely, and turn away from genuine investment.

It has recently been indicated that BT wholesale might be allowed to increase its wholesale prices in the well meaning, but incorrect, view that it will aid investment, albeit from BT alone. This move will undoubtedly act as a penalty and as a deterrent to any alternative providers who either have or are considering investing in the fixed broadband market. This may prevent the required converged operators from existing in the UK. Moreover this will lead to increase of retail prices, the opposite of the objectives of digital Britain

### **The way forward to Digital Britain**

This crossroads in the development of a Digital Britain requires an environment for investment that notes the difficulties caused by the current situation. The UK communications market needs to be viewed as a whole. It is a converging fixed and mobile market that must be considered as such. The fixed broadband market must allow alternative operators to roll out genuine convergent, ubiquitous and ‘three screen’ strategies that consumers will want.

Short-term efforts to protect and assist the incumbent fixed network provider, BT, will have the undesired consequence of averting investment and innovation in the mid-term and long-term.

Similar short-term visions may also lead the market to be shared between BT, Virgin and Sky, all of which are subject to financial constraints when it comes to investment and innovation.

The wrong framework risks stopping viable networks that provide the convergence and innovation that Britain requires.

## SECTION 1 - UNIVERSAL BROADBAND CONNECTIVITY

- Orange stands for access to universal, converged telecoms services and its strategy is aligned to the Government's Digital Britain objectives, which will give Orange an opportunity to accelerate its UK plans.
- Mobile networks provide the best solution, both economically and from a feasibility perspective, to deliver universal broadband to 98.5% of the population.
- Orange will invest to provide such an extensive network by 2012 if it is allocated a minimum of 2x5MHz contiguous spectrum in the 900 MHz band and allow other mobile operators to use it on a commercial basis.
- Orange believes that users in areas with limited or no fixed competition will only benefit from competitive universal fixed broadband offerings if BT wholesale bitstream products are available competitively.

### 1. Introduction

In this section Orange considers the issues of universal broadband connectivity, which relate to Actions 1, 4, 6, 17, 18 of the Interim Report and discusses Orange's views on:

- Current Status of the broadband market in the UK and future trends
- The risks and issues associated with providing universal broadband
- Orange's proposals and recommendations for providing universal broadband and its funding

### 2. Current Status

The development of the UK market for broadband over the last 5 years has been a remarkable achievement, reaching an adoption rate today of around 60%. LLU has developed significantly in that period in certain key parts of the country, which has increased consumer choice. Over 83% of the population now have access to bundled offers of voice and content. Orange anticipates additional product innovation and greater speeds, particularly due to the introduction of evolutions in DSL and cable technology.

The market is, however, changing. Broadband is no longer an access technology attached to a phone line connection in the home, via cable or DSL, but rather a service that can be consumed over a portfolio of different technologies.

Over the past 18 months there has been an increase in the mobile broadband market. As a result, 'dongle' and data-card connections now account for up to 12% of total broadband connections, and that share is expected to increase. Orange has continued to expand its HSDPA footprint across the country, having already reached peak rates of up to 7.2 Mbps in many places. Orange has also committed to expanding our existing footprint of 1.8 Mbps and 3.6 Mbps areas and by 2010 we expect some areas to reach speeds of up to 14.4 Mbps through the evolution of existing mobile network technology.

Orange expects laptop and netbook sales to continue to drive computer sales. Today, the technologies of choice for a consumer wanting to access mobile broadband are 'dongles' and data-cards, although more built-in mobile broadband modems are expected to be available in laptop and net-book computers. Orange has been leading this trend as demonstrated by recent

announcements such as the partnership with Hewlett Packard (HP)<sup>2</sup>, and other leading computer manufacturers.

Equally, more sophisticated handheld devices or smart-phones allow (through their 3G capable connection) a greater consumption of bandwidth hungry services such as browsing, video or location based services. Orange's experience in both the UK and other markets suggests that the right kind of handheld device can increase mobile broadband consumption up to 10 times beyond a competing device. Orange will be introducing more innovative offers, combining easier to use handsets with products and services that we expect will drive further mobile broadband traffic growth.

Orange is also seeing a change in consumer behaviour. Broadband and data services have become intrinsic in the lives of those consumers that currently enjoy them. Consumers want to access content-rich services via broadband wherever they may be. This has been at the relative expense of traditional voice services, where the growth has declined.

Orange, as a converged operator, is currently capable of providing both fixed and mobile broadband services. Orange believes that the aims of Digital Britain align to Orange's aims of providing converged services that allow customers to access their services anywhere they are.

Universal broadband therefore resonates with Orange's vision of how the market will be developing over the next few years.

### **3. Risks and Issues**

#### ***I. Extending Access***

Whilst the market is undergoing significant developments in large parts of the country, the interim report correctly identifies that the wider availability of broadband services for 98.5% of the population remains a key issue for the UK.

Orange estimates that BT's fixed network can or will provide broadband at 2 Mbps to 93% of the population through DSL technologies that are either available today or will be available for deployment in 2012. It should be noted that on a graduated basis it is estimate that 1 Mbps service could be delivered through the BT fixed network to up to 97% of the population, leaving 1.5% of the target population un-served through the existing infrastructure.

Adhering to the Interim Report's definition of universal broadband coverage, 'white zones', the areas where between 93% and 98.5% of the population are not currently provided for by a fixed or mobile operator offering broadband at 2Mbps.

#### ***II. Customer experience in the white zones***

Mobile broadband technology provides broadband to areas which otherwise would not be served by fixed broadband. This greater reach and flexibility makes it ideal for serving the 'white zones' in the most cost effective manner. There is also the added benefit of mobility.

There are differences between fixed and mobile technologies that will make the customer experience in 'white zones' different from in fixed areas. Those differences include latency, speeds and in-building coverage. Orange believes that some of these differences can be

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<sup>2</sup> <http://pressoffice.orange.co.uk/Content/Detail.asp?ReleaseID=909&NewsAreaID=2>

mitigated (such as external antennas for in-building coverage) and that effective communication is required beyond headline speeds.

### **III. Fixed Broadband issues in relation to Broadband Universal Service**

As explained elsewhere, there are areas where fixed broadband is viable but there is insufficient competition. These problems:

- Lack of price regulation, which has led to excessive pricing.
- Ongoing margin squeeze problem which makes profitability for BT's competitors impossible.
- Lack of Naked DSL outside of LLU areas, which denies communications providers such as Orange the opportunity to develop new products and services that could revolutionise the competitive landscape.

Orange believes it is fundamental to the provision of effective, adequately competitive universal broadband that the above mentioned issues are dealt with and dedicated regulatory action is required.

## **4. Proposals and Recommendations**

### **I. Orange's proposals**

The optimal means of providing universal broadband from a cost, quality and feasibility perspective is through a combination of fixed, mobile and, to some extent, satellite technologies. Orange's proposal focuses primarily on the 'white zones' in order to achieve 98.5% population coverage.

#### **Fixed Areas**

For 93% of the population, where universal broadband is provided by fixed technologies, Orange proposes to use a mixture of on net services through its LLU footprint and wholesale services, on the condition that the issues previously identified are addressed by direct regulatory action.

If those issues are addressed, Orange is ready to deliver innovative services through existing copper based networks in those areas.

#### **'White Zones' (Mobile Areas)**

The 'white zones', although of a relative small population density, represent a comparatively large, geographically diverse area which is inherently difficult and expensive to cover, whatever the technology of choice. Orange believes that access to low frequency bands is fundamental to providing a cost effective solution for these areas. And, as discussed elsewhere in this response, Orange requires an allocation of contiguous 2x5 MHz 900 MHz to provide a universal service, as the 800 MHz LTE spectrum cannot be considered as an alternative at this stage, given the later availability of the 800 MHz ecosystem (in terms of spectrum availability, handsets, and equipment).

The Government will be pleased to know that, if Orange is allocated 2x5 MHz contiguous 900MHz no later than the end of 2010, Orange would commit to delivering universal broadband to 2 Mbps for 98.5% of the population by 2012 at our own expense. This is based on the current MNOs



criteria defined within the Digital Britain working group under the leadership of Peter Black and BERR<sup>3</sup>.

### **Network share**

For the 'white zones', and given the significant size of the investment, Orange would either build on our own or find the right sharing model. Orange believes that the mobile operators should be allowed the commercial freedom to find solutions and that, providing there are no distortions to competition, Government or regulatory intervention prescribing a specific network sharing model is not required.

Orange would consider providing access to its white zones coverage on a commercial basis to other operators, in a similar manner as Orange is doing with Hutchison 3G's second generation traffic.

Orange believes in infrastructure sharing, as it brings clear environmental and cost benefits. Orange has on its own initiative been driving the infrastructure sharing agenda since 2006 by virtue of agreements with other operators.

### **Satellite**

The combination of fixed and mobile areas can reach the Government's desired 98.5% of the population but Orange believes that neither conventional fixed nor mobile networks may be realistically able to provide broadband to the remaining 1.5%.

In the areas required to bridge the 98.5% to 100% population coverage gap, the Government should research whether satellite technologies will provide the solution, providing the trade-offs of uplink capabilities and costs are understood.

## ***II. Communicating on customer experience***

Regardless of technologies, actual broadband download speeds over both fixed and mobile networks can be an issue for consumers. Operators have to both compete and communicate the service capabilities in simple terms. There is, however, a greater need for all stakeholders to help the consumer make the most of that broadband service experience in a cost effective manner.

Orange acknowledges both that service innovation will change consumers' use of broadband and that it is sensible to define a common approach to typical service levels, but we believe that universal broadband should be communicated in terms of a typical consumer experience of services such as e-mail, file download, mobile TV, web browsing or audio streaming rather than headline speed.

## ***III. Funding universal broadband***

Rolling out broadband to 98.5% of the population will require significant investment.

Orange is ready to commit to deliver universal broadband up to 2Mbps to 98.5% of the population by 2012, based on the current MNOs criteria defined within the Digital Britain working group<sup>4</sup>, at its own expense if:

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<sup>3</sup> As defined in document "20090404 Inaugural Broadband USC Technical Group – MNO Modelaling.doc" published 03/03/2009



- Orange is granted a minimum of contiguous 2x5 MHz 900 MHz UMTS spectrum no later than by the end of 2010 to enable it to provide cost effective coverage in the white zones.
- Ensure that UMTS licences are extended indefinitely to allow secure investments in the mobile telecommunications industry.
- Ensure that future spectrum prices are based on the market value, or if the information is unavailable, retention of the current spectrum price.

Orange believes that an appropriate next step would be for the Government-led strategy group to discuss other potential funding and tax relief options.

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<sup>4</sup> As defined in document "20090404 Inaugural Broadband USC Technical Group – MNO Modelling.doc" published 03/03/2009

## SECTION 2 - MOBILE WIRELESS NETWORKS AND SPECTRUM

- Orange believes that to offer the next generation of mobile services and universal broadband on a competitive basis it must be allocated 2x5 MHz contiguous 900 MHz spectrum for UMTS by the end 2010, and that O2 and Vodafone should not be permitted to refarm their 900MHz spectrum until that time to ensure a level playing field.
- Orange sees the 2.6 GHz as an opportunity to balance the high frequency spectrum holdings of mobile operators and to release some of the 800 MHz to balance low frequency spectrum holdings in the longer term amongst all mobile operators.
- 800MHz LTE industrialised solutions being however available only from 2014/2015, it can only be a late complement to 900MHz UMTS, and is in no way a substitute.
- Orange would encourage the Government to ensure that UMTS licences are extended indefinitely to allow secure investments in the mobile telecommunications industry, and that future spectrum prices are based on the market value or, if the information is unavailable, retention of the current spectrum price.

### 1. Introduction

In this section Orange considers the issues of spectrum, which relate to Action 6 of the Interim Report and discusses Orange's views on the development and use of spectrum, raised in section 2.2. of the Interim Report. Orange sees the publication of the Interim Report as a significant opportunity to resolve the outstanding issues of the historic spectrum inequality in the mobile market. To this end, Orange welcomes the opportunity for discussion to reach an industry consensus and will engage fully and constructively in the debate.

For a market to develop in a manner that enables mobile operators to contribute competitively and provide a universal broadband service and the next generation of mobile services, Orange believes that existing mobile network operators need a balance of high frequencies and low frequencies spectrum. This will allow both rural coverage and the development of high data rate indoor services. The strong consumer trend for data intensive services can only be catered for with spectrum.

The GSMA<sup>5</sup> recently stated that the mobile industry is one of the few parts of the private sector currently capable of providing an economic stimulus. The Government should seek to create a stable regulatory environment and license spectrum in a way that encourages spending on network infrastructure and services. It is in the interest of UK consumers to ensure that all operators compete on a fair and balanced basis, which in turn will ensure that sustainable investments and innovation in our industry.

Low frequency spectrum is fundamental to the provision of a rural universal broadband service with 900 MHz UMTS networks already being deployed in Europe so offering a significant

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<sup>5</sup> <http://www.gsmworld.com>

competitive advantage to those operators holding spectrum at 900 MHz compared to those who do not hold such spectrum. The current unbalanced competitive situation, driven by the 900 MHz allocation, cannot be allowed to continue. Orange strongly believes that Vodafone and O2 must release sufficient 900 MHz by the end of 2010 or at least 18 months before they commence rollout of 900 MHz UMTS and they must not be able to liberalise their 900 spectrum for their own benefits prior to that release. As is clearly indicated in the draft GSM Directive<sup>6</sup>, they must not be able to derive any benefits falling to them as a result of this historic discrimination. For Orange to engage on a competitive basis it must be allocated 2x5 MHz contiguous 900 MHz spectrum on a comparable basis to that of Vodafone and O2 no later than the end of 2010.

Whilst the latest Ofcom consultation on the release of 800 MHz spectrum<sup>7</sup> proposes the harmonisation of the 800 MHz spectrum with Europe, Orange believes that neither the spectrum (being released on a regional basis), nor LTE equipment will be ready on an industrial basis in time to provide a universal broadband in the timelines indicated by the Government, although it may be of benefit in the longer term. In technical terms, some of the propagation characteristics of the 800 MHz spectrum can be seen as complimentary to the 900 MHz spectrum. There are, however, competition and commercial issues that must be taken into consideration. The industry is unlikely to see both the release of spectrum on a national basis and the development of mass market equipment before 2013, whilst broadband networks using spectrum at 800 MHz could not be deployed until 2014 at the earliest.

It is imperative that Government takes this opportunity to resolve the refarming issues and the competitive distortion it creates, without creating any new ones, by balancing spectrum holdings between high and low frequencies. As the body with final responsibility for the allocation of spectrum, Orange firmly believes it is within the gift of the Government to resolve this issue in a manner that is satisfactory to all players that gives a sustainable competitive environment for investment in long term technological evolutions.

## **2. Risks and Issues**

### ***1. The re-alignment of existing 2G holdings***

From a technical and economic perspective, the 900 MHz spectrum provides a significant cost advantage over the higher 1800 and 2100 MHz frequencies for the provision of mobile services because of its propagation characteristics. Most of these savings come as a result of a lower number of base stations that are required for coverage in rural areas and in building areas.

Orange's desire is to deliver universal broadband through a mixture of fixed and mobile on a cost effective and adequately competitive basis. With the favourable characteristics of the 900 MHz spectrum, allocation of this spectrum will enable Orange to deliver this vision.

Orange strongly believes that Ofcom's latest proposal<sup>8</sup>, releasing only 2x5 900 MHz between the current holders of 900 MHz for award by open auction, is an unacceptable solution to the refarming problem and will prevent a more competitive market for broadband services developing. It will not only leave the current holders of 900 MHz spectrum with an enduring advantage, as they will be able to roll out high data rate UMTS services in-building and in rural areas before their

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<sup>6</sup> Anticipate approval towards end 2009

<sup>7</sup> Digital Dividend: Clearing the 800 MHz band

<sup>8</sup> 'Application of spectrum liberalisation and trading to the mobile sector', February 2009

competitors<sup>9</sup> with 800MHz LTE, but it will be one where there will be little, or no, opportunity for the market to resolve it.

The current unbalanced competitive situation, driven by the 900 MHz allocation cannot be allowed to perpetuate. As mentioned above, Orange strongly believes that Vodafone and O2 must release sufficient 900 MHz by the end of 2010 or at least 18 months before they commence rollout of UMTS900 to ensure that any first mover advantage is limited. They must not be able to exploit any benefits falling to them as a result of this unbalanced competition and, as is clearly indicated in the draft GSM Directive<sup>10</sup>, these issues must be resolved prior to refarming.

Whilst there is often discussion around the development of a secondary market in 900 MHz, Orange does not believe that a secondary market would develop. The theory that operators would trade their spectrum if their value were greater to another player than to itself may seem possible. In practice, this would be entirely dependant upon the operators being willing to trade spectrum, that would benefit their direct competitors, fairly in an environment where there is already a shortage of mobile spectrum available. It is hard to see how such a process would ever work in practice and, in fact, experience shows that it has not taken place today in other 'trading enabled' countries.

It is clear to Orange that there is a very real potential competitive threat in the mobile market if the current Ofcom proposals are adopted.

## **II. The future allocation of spectrum 800 MHz**

The digital dividend of the 800 MHz spectrum will become available as a result of digital switchover (DSO) from analogue to digital TV. Orange is heartened by the recent consultation published by Ofcom which proposes the harmonisation of the 800 MHz band with Europe, in line with recent WRC07<sup>11</sup> recommendations. The industry, and Orange, has consistently argued for this band to be released for mobile services as the lower frequencies allow a more cost effective and environmentally friendly way to provide a universal broadband service to the rural areas and high data rate indoor services.

Whilst some of the coverage propagation characteristics of the 800 MHz spectrum can be seen as complimentary to the 900 MHz spectrum, there remains significant competition and commercial concerns that must be taken into account. The Ofcom consultation acknowledges that consideration needs to be given to the genuine constraints that exist in this band by the occupation of the existing users, digital terrestrial TV (DTT) and programme makers and special effects (PMSE). The consultation makes proposals for relocating the current users of the spectrum to a suitable alternative location. Whilst it seems as though a suitable location may now have been found for these users, there is clearly still a significant amount of work to be completed, such as agreement of costs and funding, before this spectrum can be released in its entirety. Orange does not anticipate this spectrum being available for use before 2013 at the earliest.

Orange has also has concerns as to the timing of the industrial availability of network equipment and handsets to enable mass take up of services in the 800 MHz. Market Intelligence gathered by Orange confirms there is currently no LTE equipment available for use at 800 MHz. It also confirms that even with operator commitment, spectrum, network and handset equipment at 800

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<sup>9</sup> Orange, T-Mobile and H3G

<sup>11</sup> World Radio Conferences (WRC) are held every two to three years. It is the job of the WRC to review and, if necessary, revise Radio Regulations.

MHz will not be available until 2012 or 2013. Therefore the earliest date for a mass market proposition using an 800 MHz LTE network would be 2014 or 2015. Only at this point will be comparable with a 900 MHz UMTS proposition.

When comparing the lack of a mass market 800 MHz LTE solution (spectrum, network deployed and handsets) with the current mass availability of 900 MHz UMTS network equipment and handsets it is clear that allocation of the 800 MHz LTE spectrum does not mitigate the competitive timing advantages that can be exploited by the two current holders of 900 MHz spectrum.

### **III. The future award of spectrum at 2.6 GHz**

Whilst Ofcom sees the award of spectrum at 2.6 GHz as an opportunity to release spectrum to the market that will assist in the rollout of high data rate broadband services, it is important to remain cognisant that this spectrum award is unlikely to bring the benefits that previous awards of mobile spectrum have brought. This is mainly due to the fact that this spectrum, whilst available on a national basis, is extremely unlikely to be rolled out on a nationwide basis. The propagation characteristics of this spectrum are suitable for high data rate, urban usage but to roll out a network in rural areas would require such a large number of base stations that it would be prohibitively expensive and impracticable.

Orange, therefore, sees that this spectrum should be used as an opportunity to balance high frequency spectrum holdings within the mobile market and to ensure that existing operators have sufficient capacity in urban areas.

### **IV. The future application of Administered Incentive Pricing (AIP)**

Currently, the 2G mobile operators pay for their 2G spectrum by way of Administered Incentive Pricing (AIP). The calculation of this spectrum price is based on the number of channels available, the number of base stations and factors concerning the frequency of the spectrum. Ofcom believes that if the AIP of the 2G spectrum, or any other spectrum, is sufficiently high, it will incentivise the relevant operator to hand the spectrum back to Ofcom for redistribution.

For some time there has been discussion regarding the appropriate value of the spectrum and how this could be approximated to a market value. It is clear that based on Ofcom's current proposals for the release by open auction of the 900 MHz spectrum and the retention by existing operators of the 1800 MHz, the 900 MHz open auction will not give a market value for the 1800 MHz. In addition, Ofcom's current proposals suggest that there is limited value attached to the 1800 MHz spectrum. These considerations must be taken into account when assessing the future application of the appropriate spectrum price.

### **V. Giving increased certainty to 3G (UMTS) operators**

Orange purchased its 3G (UMTS) licence at auction in 2000 at a cost of £4.095m for a twenty year licence<sup>12</sup>. Currently, this licence can only be used to rollout services that conform to the UMTS technology. In line with a general regulatory policy of liberalising spectrum to enable trading and technology neutrality, Orange envisages that there will be the opportunity to liberalise

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<sup>12</sup> Expiring 31 December 2021



and extend indefinitely its UMTS licence to allow secure investments in the mobile telecommunications industry, with certainty regarding the appropriate spectrum price.

In considering the applicability of any appropriate spectrum price, the current market must be taken into consideration along with the investment to date of the current licence holders.

### **3. Proposals and Recommendations**

The previous section has discussed the risks and issues that arise from the current imbalance in spectrum holdings between the mobile operators. Orange believes that the most cost effective, environmentally friendly and realistic way to provide a universal broadband service to the rural areas and high data rate indoor services is through the deployment of mobile technology at the lower frequencies.

For a mobile broadband market to develop equitably and in a manner which enables mobile operators to provide a universal broadband service adequately competitively, Orange believes that existing mobile network operators need a balance of high and low frequencies. This will allow both rural coverage and the development of high data rate indoor services. Wherever possible, the Government should seek to create a stable regulatory environment, while licensing spectrum in a way that encourages spending on network infrastructure and services. It is in the interest of UK consumers to ensure that all operators compete on a fair and balanced basis, which in turn will ensure that we secure sustainable investments and innovation in our industry.

Orange therefore make the following recommendations to the Government:

- Allocation of 2x5 MHz contiguous 900 MHz spectrum on a comparable basis to Vodafone and O2 no later than the end 2010 to solve the current unbalanced competitive situation and to enable rollout of services on an adequately competitive basis.
- Prevent O2 and Vodafone from refarming their 900MHz spectrum for UMTS use until the wider refarming is completed.
- Use of the 2.6 GHz award as an opportunity to balance the high frequency spectrum holdings of mobile operators.
- Release some of the 800 MHz to balance low frequency spectrum holdings in the longer term amongst all mobile operators.
- Ensure that UMTS licences are extended indefinitely to allow secure investments in the mobile telecommunications industry.
- Ensure current spectrum price is retained as there are no equivalent market pricing available.

## SECTION 3 - NEXT GENERATION ACCESS

- Orange is very willing to invest in next generation access (NGA), in a converged manner, if the necessary market and regulatory conditions allow for a reasonable return on investment.
- Orange considers it necessary for appropriate regulation on wholesale bitstream products to be reintroduced to allow competition outside of the ISP LLU areas.
- Outside of areas where Orange invests directly in NGA there will be a need for regulated wholesale NGA conditions to enable a competitive system.
- Orange supports the creation of a Government-led strategy group and recommends that it undertakes an independent assessment of the viability of competitive investment in NGA, working with industry and building on the Caio Report and the Digital Britain Interim Report.
- Premium content needs to be available for wholesale distribution to allow ISPs to operate in a sustainable way and Orange supports proposals to oblige BSkyB to offer its core premium services to wholesalers at an economic rate.

### 1. Introduction

In this section Orange considers the issues of NGA, which relate to Actions 2, 3, 5 of the Interim Report.

This section presents Orange's response to the challenges highlighted by the interim report in relation to Next Generation Access (NGA) networks and also the ongoing development of broadband and voice wholesale markets outside of the parts of the country likely to be covered by NGA networks.

In summary, Orange broadly supports the proposals in these areas and believes that, with the right market and regulatory environment and with clear political support, there is a good chance that competition in NGA networks, based on a hybrid form of sub-loop unbundling, could be viable.

The issues discussed in this section focus on NGA but it is very important that the Government considers them in the wider context as NGA is entwined with other aspects of Digital Britain, like content and universal connectivity. The communications services industry, both fixed and mobile, is at a major crossroads in terms of providing and improving access to services and the desire for further investments comes at a challenging time. The role of NGA is particularly important as trends show that consumers will demand the 'three screen' (mobile, PC, TV), ubiquitous communications experience.

Orange's key priorities in relation to NGA and wholesale are:

- That the Government undertakes an independent assessment of the viability of competitive investment in NGA, working with industry and building on the Caio Report and the Digital Britain Interim Report
- Depending on the outcome of that assessment, Orange may be willing to invest in a form of NGA that requires collaborative-investment if the necessary market and regulatory conditions



exist.<sup>13</sup> Orange sets out what those conditions would be and what regulatory action (including access to content) would be required to justify such an investment.

- If those conditions are not met (and in some geographic areas where competitive investment in NGA is unlikely to be commercially viable in the near future), an improved regulatory regime for wholesale bitstream would be required in order to promote competition, consumer welfare and innovation.
- No undermining of Orange’s LLU investment.

Orange also proposes the following general regulatory themes be adopted as part of Digital Britain’s approach to addressing wholesale and NGA issues:

- The Government and regulator should support infrastructure competition at the deepest network layer where effective and sustainable in order to ensure downstream (including retail) competition. For at least some of the UK, this could be at the sub-loop layer.
- Rewards for infrastructure investments should be commensurate to the risks undertaken: where NGA investment carries greater risk it should therefore generate greater rewards; and
- The Government should ensure that taxation (particularly business rates) and fiscal policy encourages and incentivises investment in network infrastructure.

## 2. Current status

### I. BT’s NGA investment plans

- BT is investing £1.5 billion to roll out NGA to 40% of the UK population by the end of 2012. Its technical solution is based on FTTC (using VDSL) where its copper network exists and FTTH where not.
- Openreach will sell a wholesale product called Generic Ethernet Access (GEA) at the local exchange, with indicative pricing of between £5 to £10 a month (speed dependent), incremental to MPF / WLR:

	<b>Current Pricing (Annual)</b>	<b>Current Pricing (Monthly)</b>	<b>£5 GEA Pricing (Monthly)</b>	<b>£10 GEA Pricing (Monthly)</b>
MPF	£81.60	£6.80	£11.80	£16.80
WLR	£101.68	£8.39	£13.39	£18.39

- BT plans to make GEA available either at the exchange or at a point of regional or national interconnection. However, it is not currently clear whether or how the price or other terms of any of these offerings will be regulated.

### II. Status of competitive investments in NGA

At the present time, there are no competitive NGA investment plans (except, in part of the country, for Virgin Media’s DOCSIS3 upgrade). The reasons for this are explained in the ensuing sections.

<sup>13</sup> Note that this section is not concerned with fibre to the premises (FTTP) or fibre to the home (FTTH) (which Orange does not currently consider viable at scale in the UK) except with respect to some minor future transitional issues.

### 3. Risks and Issues

It is clear that the market is at an important crossroads. If it benefits from properly targeted regulatory intervention, the benefits of competitive NGA could be very significant. However, there are various risks and issues which may hamper the effective development of the market.

Oranges sees the potential for competitive investment in NGA at the sub-loop level but it will be a serious challenge to make this work effectively. The classic sub-loop model has not been successful in other jurisdictions<sup>14</sup> and, even on a co-investment / JV basis, it will be difficult to make this classic model work, so the Government support is essential for effective competition. This special situation justifies a specific series of measures appropriate for the UK market. These are set out in detail below.

In addition, there are significant risks and issues attached to existing and NGA wholesale bitstream products. Ofcom and the Government have to-date set out an expectation that regulation will be focussed on passive, not active products. This is a valid approach where sub-loop investment is viable. However, this will not be the case everywhere and in areas where there are no NGA or LLU roll-outs, today's wholesale bitstream will still be required. Those products have suffered from:

- a lack of price regulation
- margin squeeze, particularly in the absence of an effective enforcement regime;
- the absence of a Naked DSL product; and
- a lack of opportunity for real service differentiation.

There is a real risk that this will be repeated for NGA-based bitstream.

### 4. Proposals and recommendations

The benefits of deep-level network infrastructure competition are significant, as shown by the success of LLU since 2004. This has brought significant pricing and innovation benefit to customers in the UK (broadband penetration in the period 2004-2007 grew faster than in any comparable country) and also led to significant infrastructure (including inward) investment. From a position where the UK was lagging behind, it can now justifiably be held up as a leader. Much of this success can be accounted for by the UK's commitment to deep network infrastructure competition. There is no reason why this success cannot be repeated for NGA investment.

It has become commonplace to state that multiple investments in enabling the sub-loop for VDSL are not viable. Ofcom's NGA statement of 3 March 2009 appears to signal a primary role for active products (while also making useful statements on NGA investment). Orange has examined this position carefully, informed by our challenging experience in seeking to run a profitable business

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<sup>14</sup> See for example European Commission's Draft Explanatory Note accompanying the Draft Recommendation on Regulated Access to Next Generation Access Networks (2008): ... "Sub-loop unbundling is technically feasible and is already an obligation on SMP operators in many Member States. But there is considerable uncertainty over the extent to which sub-loop unbundling is commercially viable." In December 2007 Analysys, in a study for Irish regulator Comreg, were able to conclude that "At present there are no commercial deployments of SLU in Europe" and for the future could point only to roll-outs by incumbents (Deutsche Telekom, KPN) or in publicly funded schemes.

based on BT's current generation active wholesale bitstream product. This examination reveals that there may be a case for competitive investments in NGA through a form of NGA that requires a co-ordinated approach to network infrastructure roll-out, sharing the risk of roll-out between several commercial entities. This would only be the case provided that the right commercial and regulatory conditions are met.

All stakeholders should be incentivised for deep-level network infrastructure to succeed. For this reason, the Government should promote a programme that supports deep-level network infrastructure competition in NGA markets more generally (rather than just the duct and primary infrastructure markets identified in the Actions) through a hybrid form of NGA investment at the sub-loop. The first step is for the Government to initiate a review, building on the Digital Britain Interim Report and the Caio Review, to look in detail economic case and practical realities of multiple NGA investment.

However, the coverage of any such competitive investment in NGA is unlikely to be as wide geographically as BT's NGA investment. To this extent, Orange and other ISPs will always be reliant upon BT's wholesale fibre products in at least some of its geographic coverage. It is, therefore, likely that there will be different geographic markets within the UK, with different predominant technologies and different competitive characteristics. One possible outcome is five different types of area:

- Geographic areas where competitive NGA investment is viable.
- Geographic areas where there is NGA investment only by one player, together with some cable coverage.
- Geographic areas outside the above ones where local loop unbundling at the exchange is still viable.
- Geographic areas outside all the above ones where today's broadband services are viable but there is no material competition.
- Geographic areas where universal broadband is required.

This chapter is primarily concerned with the first two areas. However, regulation of wholesale bitstream on today's model will continue to be required in areas where today's broadband services are viable but there is no material competition. This is discussed further below.

Furthermore, as a result of either the absence of the correct regulatory conditions, it may transpire that multiple NGA investments (even in the more commercially-palatable form of a variant of sub-loop unbundling based on risk-sharing and coordinated roll-out) are not viable. Despite the best endeavours of all involved, it will be clear that in some (if not all) of the areas covered by BT's NGA investment, wholesale fibre bitstream is likely to be the deepest network layer at which effective and sustainable infrastructure competition can succeed. This would mean that there is no realistic prospect of areas developing where competitive NGA investment can exist. In this event, Orange recommends a series of measures to maximise competition and consumer welfare through regulation of BT's NGA-based wholesale bitstream products.

Ofcom has already used a sub-national geographic market definition approach in its regulation of the wholesale local access and wholesale broadband access markets. Ofcom should build on this approach in deciding the optimal regulatory regime for NGA.

### ***1. Orange would be willing to invest in NGA if the right market and regulatory conditions exist***

Orange's primary objective is to achieve a regulatory regime which generates the maximum possible opportunity for competitive investment in NGA. Orange believes that such investment may be possible with the right market environment and regulatory regime. This type of competitive NGA

investment Orange believes might be achievable and what are the main inhibitors to such NGA investment by Orange are set out below.

It is Orange's view that many of the barriers to NGA investment can be addressed by the appropriate application of regulatory tools which in many cases already exist. A key principle is that the policy framework should support infrastructure competition at the deepest network infrastructure layer, where effective and sustainable, in order to ensure downstream (including retail) competition. The key measures needed to achieve this. More detail is available in the Appendix.

#### Importance of content

In order for ISPs to be able to afford the level of investment required for NGA, it is important for them to be able to attract sufficient ARPU from its customers within those area they seeks to invest. One of the key drivers of ARPU is availability of premium and basic content on fair and reasonable terms. This will be a pre-requisite if Orange is to consider such an investment. Oranges view's on access to content are set out in detail in Chapter 4.' of this response.

#### Key areas for action – commercial – development of hybrid investment model

The major commercial barrier to multiple sub-loop investment is the capital cost associated with today's requirement that each player build its own street cabinet infrastructure.

An analysis of NGA infrastructure-based competition should take into account the economics of FTTC networks, which imply the creation of a significantly number of new active network nodes throughout the most densely-populated geographic areas – potentially up to ten times more numerous than the current number of points of presence of Orange UK within that geographic area. Therefore, only extreme optimisation and sharing with BT for these new active nodes may allow a profitable business case for an alternate operator investing in NGA.

Orange therefore recommends that this be addressed by the development of a hybrid wholesale / sub-loop investment model which would overcome many of the key inhibitors to multiple NGA roll-out. This approach would allow communications providers to install their own electronics in BT street cabinets in a co-ordinated roll-out programme, thereby sharing the risk and rewards of competitive infrastructure investment. The idea was originally suggested by BSKyB and is supported by Ofcom in its 3 March 2009 NGA statement. Orange recommends that an intensive investigation, led by the Government, be carried out to explore this.

This model reduces the risks of NGA roll-out and generates considerable financial, operational and competitive benefits. More detail is available in the Appendix.

In addition, there should also be an independent review to ascertain whether this approach is viable from a practical and economic perspective.

#### Key areas for action – commercial - price regulation of sub-loop

The second key commercial barrier to entry at the sub-loop level is the price of today's sub-loop products. BT's sub-loop products have never been exposed to serious scrutiny. For example, the price of a sub-loop transfer (connection charge) today is £127.61, compared with £34.86 for a transfer of an unbundled loop (connected at the exchange).



No serious regulatory attention has yet been given to these prices (although they nominally fall within the scope of BT's cost orientation obligation) because until now there has been little serious interest in using the products concerned.

Orange therefore recommends that Ofcom immediately reviews BT's sub-loop pricing with a focus on both monthly fees and in particular customer connection charges, with the cost of which being assessed under a non-discriminatory operational process for migrating lines. This should include a review of GEA pricing to ensure an appropriate competitive environment in which a significant geographical area allows sub-loop unbundlers to benefit from cost advantage over GEA.

#### Other key areas for action

The hybrid investment model proposed, together with the price and process improvements identified above, will solve many of the barriers to successful NGA roll-out by multiple players but there are other issues which will need attention.

First, industrialised and fully non-discriminatory processes will be required for sub-loop unbundling. Significant attention has been given to the creation of industrialised process as for today's LLU since mid-2004. This was a pre-requisite for Orange's original investment in LLU and, indeed, it is accepted that LLU could not have succeeded without it. No such attention has been given to sub-loop products and this means that it is unlikely that sub-loop unbundling can be made to work at scale.

Orange therefore recommends that the OTA should be empowered and resourced to sponsor the same, large scale re-engineering of products and process as was begun for LLU in 2004. This will be an absolute pre-requisite for successful investments in sub-loop.

Secondly, a level competitive playing field is called for. Further careful consideration should be given to how the principle of equivalence will apply in the NGA world. Orange will consider this further before responding to Ofcom's consultation of 3 March 2009 on revisions to BT's Enterprise Act Undertakings.

Thirdly, even with the hybrid model, it needs to be recognised that the financial barriers to VDSL-NGA investment are great. It is likely that potential investors will want to consider action through joint ventures but the UK merger clearance regime could seriously hamper timely formation of such a venture, damage time to market, and limiting the effectiveness of the hybrid model. A fast-track competition clearance process needs to be developed for any joint venture vehicle created for NGA investment.

#### Ensuring equivalent treatment for universal broadband investors

Orange detects an aspiration that in any new build roll-out designed to implement the proposed universal broadband, steps are taken to harness the benefits of competition over these networks. This section is not concerned with that proposal as such but with the possibility of an approach to NGA which is not equivalent to that aspiration of competition over universal broadband networks. Players such as Orange will naturally be reluctant to invest in universal broadband networks with an expectation of competition over those networks if the NGA roll-out of SMP players, like BT, are allowed to benefit from preferential conditions in gaining access to the sub-loop. Indeed, it would be a curious outcome if special steps were taken to mandate competitive access in rural areas if the same concern was not shown for broadband users in more densely-populated geographies.

The measures identified in the preceding paragraphs – which we believe are appropriate as a result of BT's position of market power – would also substantially mitigate our concerns about non-equivalent treatment for any possible universal broadband investment.

### Orange vision for action

Orange is serious about the possibility of investing in NGA through sub-loop unbundling. If Ofcom and the Government implement the steps identified, and assuming a positive outcome to the review as proposed, Orange will seriously consider rolling out NGA on the hybrid model to cover up to 40% of the UK's population.

#### ***II. In areas where competitive investment in NGA infrastructure is not viable action will be needed to improve the competitive position for wholesale NGA-based bitstream.***

If the conditions identified above are not put in place, if they fail to lead to competitive investment at the sub-loop level or in some geographic areas where competitive NGA investment is unlikely to be commercially viable in the near future, it will be clear that the deepest network layer where effective and sustainable is indeed at the wholesale (bitstream) level.

In areas where NGA roll-out is only viable by BT (with some cable coverage also), further action will be required to ensure competition downstream and maximum benefit for end-users and to promote product and service innovation. The risks and issues associated with the absence of competitive investment in sub-loop NGA are outlined below, together with Orange's outline proposals for mitigating them. A comprehensive list including further detail is available in the Appendix.

#### Action required in areas where competitive investment is not viable - price regulation of wholesale bitstream

Ofcom has indicated that it does not plan to regulate the price of 'active' (that is, bitstream) fibre products. This is justified as a regulatory strategy to the extent that material competitive investment in sub-loop is likely. However, in areas where there is no sub-loop competition, Ofcom would not in that event be following the principle (as set out in its Strategic Review of Telecommunications) of focusing regulation to support competition at the most effective and sustainable infrastructure layer, instead focusing regulation on a product no communications provider is likely to purchase.

Orange's view is that in areas where competitive NGA investment is not viable, price regulation will be required – contrary to the currently-proposed approach. Action will also be required to prevent margin squeeze. Details of the action required are set out in the Appendix.

#### Action required in areas where competitive investment is not viable - Naked Broadband

No 'Naked VDSL' variant of GEA currently exists, meaning that ISPs will be forced to purchase a 'baseband voice' product from Openreach (currently limited to either MPF or WLR) in addition to GEA even if they have no plans to offer a PSTN-based voice product. In Orange's view it is clear that BT should be compelled to launch a 'Naked' version of VDSL that does not require use of a baseband voice product.

#### Importance of content

As noted elsewhere, if competitive sub-loop has failed there will be little network-based service differentiation and the availability of premium and basic content on fair and reasonable terms will become all the more important. In addition, it is essential that access to facilities like multicast is available to all players on equal terms. Action would therefore be needed to ensure the availability of premium and basic content on fair and reasonable terms including, in the case of BSkyB, a regulated cost-orientated wholesale product. Orange's position on this is set out in more detail elsewhere in this document.



Action required in areas where competitive investment is not viable - extension of Openreach scope

While Orange is encouraged by Ofcom's statements on 3 March 2009 that equivalence will apply to BT's NGA-based bitstream, Orange remains concerned that the principle may not be enforced in relation to all necessary inputs, such as multicast facilities. The principle of 'equivalence' has underpinned much of the regulatory success which supports today's broadband. As in the present UK context, equivalence has no chance to be obtained outside Openreach. Orange therefore recommends a careful programme to ensure that through the extension of Openreach's scope, equivalence of inputs applies to all aspects of BT's NGA-based wholesale bitstream in the event sub-loop competition fails.

Action required in areas where competitive investment is not viable - operational issues

Ofcom and the Telecoms Adjudicator should initiate a programme to deal with detailed implementation issues such as control of CPE and migration. In particular, clear and cost-effective migration paths will be essential to ensure a positive customer experience.

Equivalent treatment for potential universal broadband providers

Players such as Orange will naturally be reluctant to invest in universal broadband networks with an expectation of competition over those networks, if the NGA roll-out of SMP players like BT is allowed to benefit from preferential conditions.

**III. Proposals for wholesale bitstream outside of LLU areas**

In areas where NGA is not likely to develop, the market currently suffers from well-known and established problems which will still need attention if the UK population as a whole is to benefit from Digital Britain. Wholesale bitstream will always be required in these areas, even if sub-loop investment is effective. The dedicated regulatory action required in this area is set out in the Appendix.

**IV. Orange investment and the establishment of an independent review body**

Orange is willing to invest in NGA if there is a viable business case. In order to give that case the maximum chance of success, Orange is requesting a dedicated action programme from Ofcom and the Government, as set out above.

Orange also recommends that the Government set up an independent body to examine the business case for investment in competitive fibre infrastructure. The purpose of the study should be to investigate the appropriate balance between encouraging investment and promoting competition. Within that overarching policy goal, the remit must be focused. It would work with Ofcom, the Government and industry to investigate the scope for action along the lines set out by Orange above, including particularly the hybrid model. Informed by that exercise, it would undertake a modelling exercise to ascertain the scope for multiple NGA investments and derive actual demand estimates from communications providers.

This body would also work closely with the OTA to ascertain the process changes needed to make the hybrid model work in practice.

The output of the work would be a two point view, to be produced by the Committee but informed by the OTA's work, as follows:



- A statement as to whether the hybrid model is commercially viable and the level of actual demand for it.
- A timelined plan for the implementation of practical steps to make it happen.

Orange recommends that this work should be undertaken within clearly defined timescales and would welcome the opportunity to participate fully in such discussions.

Orange would then urge the Government to study carefully the conclusions of the study and if necessary, implement urgent changes to facilitate investment (if there is a viable scenario for investing) or change the regulatory regime for wholesale, if the above is not possible.

## **5. The possibility of negative outcomes if the right action is not taken**

If the action identified r fails, a rather bleak scenario emerges in which the structure of competition is severely damaged. This is not a step Orange would take lightly; Orange was a pioneer in UK internet access and today has over one million fixed broadband customers. In this scenario the market would be faced with increasingly difficult conditions in which the following risks would be the dominant forces in the market for alternative sector ISPs.

First, profitability for ISPs would become impossible. The pre-LLU margin squeeze (currently still affecting Markets 1 & 2) has been under investigation by Oftel and Ofcom since 2002 would be likely to continue. The UK presents particular problems in this regard and Orange legitimately feels that in the UK context an *ex ante* approach is required, due to specific institutional context. This would prevent Orange from making a profit.

In due course, the market would become an effective duopoly between BT and Virgin Media, which would lead to a lack of effective competition in either the wholesale or retail market (currently competitive). Deprived of the benefits of competition in both price and dynamic terms, consumers will suffer: prices will increase and there will be little or no product innovation.

This would result in the massive progress made in the Strategic Review of Telecommunications in 2004 being undone, creating an enduring economic bottleneck on wholesale. This would be a damning indictment of regulatory policy today when compared with that in the early days of Ofcom. LLU investors may well, with some justification, feel that the Government had not stood by their commitment to competition.

Perversely, the outcome of this will not be less regulation. Instead, the lack of competition and investment will require the need for more intrusive regulation of both wholesale and retail markets for years to come.

This is a lose / lose scenario for all stakeholders and it would not make economic sense for Orange to remain in a market where there was no realistic possibility of making a profit. Orange fully expects other ISPs have undertaken the same analysis and arrived at the same conclusions.

## SECTION 4 – DIGITAL CONTENT

- For successful investment in fixed broadband, especially NGA, to the levels the Government desires, Orange and other ISPs must be given access to both premium and PSB wholesale content at competitive rates.
- BSkyB is dominant in the premium content market and as non-linear VOD services become the standard it will be in the position to leverage its premium content to lock in customers to its triple play offering, discriminating suppliers with broadband offerings only.
- The ability for major distributors, particularly BSkyB to leverage positions in closely associated markets acts as a barrier to other ISPs and must be addressed if there is to be an open and competitive marketplace for ISPs.
- BT should not be permitted to leverage its position in various fixed-line markets to launch Canvas and to negotiate terms that would only be acceptable to it in order to avoid other ISPs being squeezed out of the market.
- The BBC, in its Canvas project, should not engender incremental costs on network suppliers without providing a basis for these suppliers to generate revenues.

### 1. Introduction

Section 3 of the Interim Report captures a number of the major issues surrounding the role of content in driving outcomes in next-generation service provision and identifies a number of crucial factors (including the importance of public service broadcasting in the media landscape and the particular role of the BBC) that may serve to help secure the general content-related objectives linked to Next Generation Access (NGA), as set out in the report. Orange welcomes the opportunity of communicating our strategy, expectations and contingent intentions.

This section of our response (which relates to Actions 7, 8, 10, 14, 15, 20 and 21 of the Interim Report) is structured around four elements:

- a review of the current status of the market for content in the UK
- a discussion of the risks and issues raised
- the identification of proposals and recommendations that Orange considers central to its ability to play a full part in delivering next-generation services
- an indication of Orange's intentions with regard to the content market in the event that solutions can be found to address the obstacles we have identified

The crucial observation in relation to the content issues and NGA is the requirement for network suppliers to gain economic access to premium and PSB-controlled content in return for supporting the objectives of ubiquitous broadband. Without a clear and fair regime in place, ISPs face incremental costs associated with the delivery of content to converged devices without the means to generate compensating revenues.

## 2. Current status

### I. Orange's content activities in the UK market

Orange has considered taking an active role in providing an IPTV service in the UK over the past two years and has investigated the market opportunity in considerable detail. This investigation has been informed by Orange's experience with the delivery of IPTV in major European markets such as France, Spain and Poland, and the considerable progress we have made in developing and commercialising a market-leading "three screen" approach to content distribution involving mobile handsets, PCs and TV screens.

Despite the high level of Group-wide experience of mobile and fixed-line network provision in key markets (France, Spain, Poland, Switzerland and Slovakia), and its parent's notable success in delivering an array of content to consumer devices, Orange's activities to date in the UK have been limited to the provision of content services via mobile and standard broadband services as an ISP, principally via our unbundled fixed-line network.

The reasons for the delay in offering IPTV, and in developing a multi-screen approach to service provision in the UK, are linked to the structural and commercial obstacles that have so far held back a number of new entrants with content distribution ambitions. These relate, in particular, to the strong market power of BSkyB in the provision of premium content (especially top sports); the overwhelming popularity of content funded and/or owned by the Public Service Broadcasters (PSBs), which is likely both to drive take-up of Video on Demand (VOD) platforms on PCs and on TVs and to be core to any mobile TV platform; and the ability of major distributors such as BSkyB, and BT to leverage their position in adjacent markets, thereby rendering business models for new entrants extremely difficult to establish.

### II. The structure of the content distribution market

The distribution of TV and related Audio-Visual services in the UK is heavily bi-polar in nature. BSkyB, through its control of premium sport and film, has a 'lock' on high Average Revenue per Unit (ARPU) homes, currently supplying 9.2m homes in the UK and Ireland, and generating ARPU of c£444 a year. Its control of both top sport and the core pay-TV movie window allows it to set the price for the distribution of premium content to the Virgin cable platform (on a wholesale basis) and, to date, to refuse to supply other platforms on a wholesale basis. This underpins BSkyB's ability to generate adequate cash flow from its control of premium content to leverage its position in the content markets into the broadband market, through its bundled TV, telephony and broadband 'triple play' offering. As non-linear VOD becomes standard, BSkyB's ability to lock in customers to multiple services will increase; only adequate measures to ensure third parties have access to platform-driving premium content will ensure that competitors are able to emulate BSkyB's triple play threat.

At the other extreme, nearly 10m homes have Freeview as the digital distribution network on their main TV sets, with only around 400,000 homes currently paying for TV services via digital terrestrial TV (DTT), either through BT Vision's non-linear IPTV service or via the largely "push VOD" service operated by Top-Up TV, neither of which has access to BSkyB's platform-driving premium content. Both these pay propositions in DTT are sub-scale and their lack of traction to date suggests the difficulties of addressing the DTT base without economic access to premium content.

The primary focus of the PSBs is the free-to-air (FTA) DTT platform, where they enjoy their best digital viewing share. These broadcasters (the BBC, ITV, Channel 4 and Five) together fund 90%

of non-film, non-sport original content in the UK TV market, enjoy aggregated viewing share from all their channels of 70% across all platforms and own outright 60% of the original content they broadcast. There is a risk that supply of this content for VOD services will also be constrained, and that network suppliers in particular will be disadvantaged by increased traffic on their networks with no opportunity to generate revenues to offset these costs.

Orange considers three key elements of the current market landscape – the premium content 'lock', the PSB 'lock' and the triple play threat - in turn.

### **III. The premium programme market in the UK**

As has already been identified by Ofcom, in its current review into the Pay TV market, BSkyB enjoys a dominant position in the supply of premium content in the UK, both in sport and film. Its control of four of six 'packs' of Premium League football (to rise to five of six in the rights cycle beginning 2011) gives it unassailable advantages in driving platform outcomes and effectively setting prices in the UK via its own retail proposition on satellite and the web, its expensive wholesale offering to cable, and its withholding of wholesale terms from other platforms including IPTV and other web-based services.

In essence, BSkyB benefits from a virtuous/vicious circle allowing it to leverage its control of key rights to increase subscriber traction, thereby augmenting its ability to keep bidding more than its competitors when rights are renewed.

BSkyB's ability to continue to dominate the market for premium content is now so secure, and its potential ability to crush competitors unable to match its triple play power is so great, that only further intervention is likely to alter the sector dynamics. With more than 9m subscribers on satellite, and another 1m Virgin cable homes receiving either BSkyB Sport or BSkyB Movies, BSkyB enjoys immense cashflow (in excess of an annualised £1bn), and is able to out-bid existing pay-TV competitors and new entrants in virtually any conceivable scenario.

While the market for movies is more competitive, owing to the availability of non-exclusive rights to movies in the VOD window, BSkyB's extensive relationships with US studios, in particular through acquisition deals for TV content and channel carriage agreements with studio-owned multi-channel brands, give it a position similar to that which it enjoys in top sport.

### **IV. The PSB 'lock' on programming**

The existing PSB broadcasters, all to lesser or greater extent beneficiaries of advantages conferred by the Government, dominate the original content market in the UK. Their aggressive pursuit of a free-to-air strategy, in particular the launch of multi-channel extensions such as BBC3, ITV2, E4, or Five USA, has bolstered the position of Freeview, and has made it more difficult to promote a pay proposition to those homes that have not taken a BSkyB or Virgin subscription service. The relatively modest subscriber levels achieved by BT Vision and Top-Up TV, both of which address the DTT population, are testimony to the attractions to date of the FTA Freeview proposition, where standard receiving equipment is available for as little as £20.

As a result, the UK has a far lower penetration of pay TV than comparable markets such as the US and Germany. The strength of the FTA market is also bolstered by the existence of the licence fee-funded BBC, which has provided high-quality, commercial-free original programming of the sort than in other countries has been supplied by pay operators (for example, HBO in the US or Canal Plus in France). The structural and cyclical challenges facing the FTA broadcasters currently underline how little exposure they have to any pay models and how reliant they are on expenditure by major advertisers on broadcast channels.

The importance of the PSB programming 'lock' is becoming apparent in non-traditional distribution markets as well. The success of the BBC's iPlayer, in particular, but also the development of other PSB-backed 'portals' such as ITV.com and 4OD that provide Video on Demand (VOD) have proved the appeal of original UK content, the majority of which is controlled directly by the PSBs. Indeed, in its ruling on the prohibition of the PSBs' joint venture VOD platform Kangaroo, the Competition Commission identified the nature of PSB programming as a driver of VOD use. The PSB content 'lock' is likely to become more important in the future, with the more aggressive development of broadband-delivered VOD services.

## **V. Triple play and other bundling**

A third obstacle to the realisation of Orange's content distribution ambitions in the UK is the market-wide adoption of service bundling strategies by network operators and content suppliers. Buoyed by its income from 'buy through' distribution of premium content, and able to sustain lower ARPU from late adopters of satellite, BSkyB has aggressively sought broadband and telephony customers through zero or low-cost pricing for bundled services. Its near-dominance of the satellite platform in the UK, and its advantages in 'locking in' satellite customers to a range of core and associated services (including HD, multi-room, broadband and web-based VOD) mean that new entrants seeking to address UK homes with a range of TV and related services have effectively to disregard BSkyB homes when it comes to setting market targets.

While Virgin does not enjoy a premium content market presence, its control of cable franchises, and the ability to bundle voice and telephony on its own networks in those areas it covers, take cable homes too out of the target reach of new entrants, certainly in the short term. To date, new entrants in TV have been limited to addressing the 2.8m homes that remain analogue or those taking low-functionality DTT, or roughly 50% of homes. For perspective of broadband-only suppliers, business models are extremely challenging. The degree of dominance in relation to the content market is such that Orange believes intervention will be necessary to ensure a level playing field, after which all players will be able to compete on a fair basis.

### **3. Risks and Issues**

Orange has extensively analysed the trends in the content distribution market in the UK, and developed a number of scenarios to help it make investment decisions. In its base-case modelling, Orange has identified those homes outside BSkyB and Virgin's commercial footprint as those most likely to be attracted by the TV services offered by a multiple-service new entrant. For example, Orange has considered the likely evolution of the market for open ISP services, such as games consoles, aggregators like Apple TV and any number of platforms connecting TV to the web) and considers that these will likely remain minority platforms in regard to both BSkyB and Virgin homes. This is principally owing to the ability of both Virgin and BSkyB to emulate the advantages of open ISP propositions to offer subscribers similar services via their existing subscriptions in the same way that BSkyB has added HD to its latest-generation set-top box, and is exploring ways to use the Ethernet connection that comes with all HD-generation set-top boxes (STBs).

Orange has therefore concentrated its attentions on the non-BSkyB, non-Virgin footprint, and in particular those homes currently using Freeview as their main digital delivery platform. In this market segment, there are three broad discontinuities that are likely to favour new entrants, provided they evolve in specific and useful ways. These are:

- intervention in relation to the supply of premium content to competing platforms (DTT and IPTV)
- developments backed by the PSBs in relation to the next generation of TV services for DTT (in essence, the Canvas project)
- connected to Canvas, and at the heart of the Digital Britain project, the upgrading of fixed-line and wireless networks to provide the speed and bandwidth necessary to deliver next-generation TV and other audio-visual content via broadband to all UK homes and portable devices.

### ***I. Regulatory intervention in the supply of premium content***

As a solution to this problem, Ofcom has proposed, on a preliminary basis, to oblige BSkyB to offer its core premium services to competing platforms under a regime where wholesale must be offered. While details have still to be decided and a fundamental decision to intervene has not yet been made, Ofcom is proposing to consider some form of price setting to ensure that the wholesale market will allow retailers to buy Sky Sports and Sky Movies content on a regulated basis and offer these to their own customers at an acceptable margin. This might permit competing retailers to offer lower-priced access to Sky Sports, and thus help bridge the bipolar gap in the market between BSkyB's high ARPU homes and the Freeview base.

At this stage of its investigation, Ofcom is not minded to impose a wholesale obligation with regard to the satellite platform, as it is setting platform competition as its objective and proposing a regime to secure the ability of IPTV and DTT operators to offer BSkyB's premium services to retail customers.

Ofcom has indicated that, provided an acceptable wholesale regime is in place, BSkyB would itself be allowed to retail Sky Sports and Sky Movies on DTT (which it had previously petitioned Ofcom to be allowed to do under the currently mothballed Picnic proposition).

Further details concerning how the regime would operate must await the outcome of the next phase of Ofcom's market investigation (to which Orange has contributed).

### ***II. Next-generation DTT and the Canvas project***

Of more immediate interest to Orange are plans to encourage upgrade of homes from the existing Freeview service to a DTT 2.0 service incorporating higher functionality. Freeview's growth in acquiring 'primary' homes has slowed markedly and its PSB backers have identified a need to introduce higher-specification boxes/integrated TVs to ensure that DTT remains as large a platform as possible among digital options. Without a migration path toward a system-wide upgrade, Freeview will look far less competitive against a bundled BSkyB service or an evolving Virgin Media offering.

The key requirements in order for Freeview to remain competitive may vary over time and be affected by evolving technology and changing consumer behaviour. It appears clear, however, that next generation TV is likely to require functionality that allows for the delivery of at least VOD, whether through an upgraded network, permitting real time streaming or progressive downloads or enhanced home-based memory (effectively Personal Video Recorder (PVR) capability) and allowing content to be pushed to the home storage facility for screen distribution or to be chosen for recording and viewed at a later time. Such functionality will require new STBs or integrated TV sets.

There is also an impetus to ensure that next-generation DTT STBs or integrated TVs are able to receive the new HD services being planned by the PSB broadcasters from late 2009 or early 2010. This will require that new equipment be compatible with the DVB-T2 standard and broadcast in MPEG-4 rather than MPEG-2.

In response to the need to upgrade the Freeview platform, and in recognition of the possibly negative effects of an entry by BSkyB into the DTT pay market, the BBC and ITV (with Channel 4 and Five still uncommitted) have joined to form the Canvas project, which is a body that aims to promote the introduction of common standards for next-generation equipment, incorporating as high a degree of functionality as possible, given consumer appetite and market developments. In particular, the BBC and ITV, which are driving the Canvas project, are aiming to help create a common, open standard allowing devices to be connected via broadband and providing a range of content delivered over the air and through next-generation networks. Canvas is likely to promote a common electronic programme guide and agreed terms for the distribution of content, and its backers intend to support the launch through aggressive cross-promotion and other marketing.

The Canvas project is still in preparatory phase, and will be subject to a review by the BBC Trust. The particular issues that may be raised include the basis on which Canvas will work with STB manufacturers, ISPs and third party content suppliers; the nature (and source) of the VOD services being offered; the availability of conditional access in Canvas-compliant equipment, permitting the distribution of premium and basic pay TV content; the timing of any upgrade to new DVB-T2 standards; and, even the nature and functionality of any menu or navigational system. More generally, it is not yet clear how the benefits derived from a successful upgrade of the Freeview proposition will be shared by all partners involved (ISPs, STB manufacturers, platform operators, broadcasters, content owners) and how the costs (including increased traffic on broadband networks) will be shared, if at all. Two key issues will be the cost of new equipment (and the ability of any Canvas partner to offer consumer subsidies to drive take-up) and the availability on Canvas-compliant equipment of conditional access technology permitting Canvas partners to offer pay services.

Orange believes the way that the Canvas project is developed is crucial in the ability of new entrants to address homes currently outside of the footprint of BSkyB and Virgin with a suite of content and other services.

### **III. Network Upgrades**

Essential to ensuring that next generation content distribution will be extensive is the required upgrade and extension of the UK's fixed line and wireless networks, the clear central tenet of the Digital Britain project. The aim of ensuring broadband ubiquity cannot be met simply through reliance on market outcomes, as the Interim Report suggests in its discussion of the requirement to consider the regime for the promotion of Universal Service Obligations (USO). These issues are the subject of detailed review and analysis elsewhere in our submission.

While elements of the Canvas proposition can work in a majority of homes, in particular a push-VOD proposition using DTT capacity, it is likely that an optimised customer experience will require at least some services to be delivered via the broadband connection.

ISPs have already recorded increased costs related to the traffic generated by broadcaster-owned VOD sites to PCs, from the successful BBC iPlayer service in particular. Increased traffic as services are delivered to home TV screens beyond the current limited BT Vision and Virgin Media offerings, coupled with the costs of the broader upgrading of networks to meet the objectives of

Digital Britain, will constitute a tremendous burden on ISPs and network owners. This needs to be considered in establishing USO obligations, differential pricing of broadband, perhaps even determining different forms of revenue and cost sharing between content owners and network distributors.

Within the current oligopoly of content and access (BSkyB on the one hand; Freeview and, perhaps BT, on the other), stand-alone broadband operators will be unable to cover the costs of delivering a low-ARPU/bandwidth-hungry VOD services unless their funding requirements and access to content issues are addressed. In this regard, Orange fully supports the Government's position on net neutrality, which aims to ensure that operators are able to structure differentially and/or price their network services to respond to the effects of incremental costs generated by high-bandwidth offerings such as VOD.

#### **4. Proposals and Recommendations**

Of the major content-related areas raised in the context of the Interim Report, Orange has identified the following as being potential obstacles to us taking a full role in helping to secure the stated objectives. Once these problems are addressed, to counter, in particular, the effects of market dominance in relation to access to content, the market can be allowed to function properly and competitively:

- Lack of access to platform-driving premium content for new entrants, including for IPTV, VOD and mobile TV.
- The dominance of PSB programming in relation to non-linear VOD (iPlayer, ITV.com, 4OD, Demand Five); and issues related to access and supply for third parties.
- The ability of competitors with entrenched, dominant positions in the market to leverage their dominant position (as demonstrated by BSKyB's bundling of telephony, broadband and TV and BT's investment in BT Vision and their possible support for Canvas without explicit requirements as to revenue and cost sharing).
- The resultant dangers of Canvas creating a non-level playing field in relation to its partnerships with ISPs, in particular, establishing a partnership basis that only the incumbent BT can accept.
- The costs of network upgrade and USO without direct consideration of revenue and cost sharing and explicit ability of ISPs to differentially price broadband services to reflect traffic implications.

##### ***I. Premium content supply***

Orange fully supports efforts by Ofcom to impose a must-offer wholesale obligation on BSKyB, with particular reference to Sky Sports. Once this market dominance is corrected, all players will be able to operate according to standard market practice.

Specifically:

- BSKyB must not be allowed to shift premium content from a regulated channel to other channels in its portfolio, nor withhold an HD variant of the service, nor impose onerous conditional access obligations on competing retailers.

- Potential retailers of Sky Sports on competing platforms must be afforded an economic wholesale price, whatever the basis for establishing the price might be, and the channel must be allowed to be sold on an unbundled basis to retail consumers.
- Ofcom should extend the wholesale regime to satellite as restricting the remedy to DTT and IPTV only limits the ability of competing retailers to optimise their distribution strategies.
- BSkyB should not be allowed to retail Sky Sports itself on the DTT platform or via IPTV as its ability to cross promote, its pre-existing and close relationships with retailers and STB manufacturers and its critical mass marketing and subscriber management operations provide it with unfair advantages compared to new entrants
- Access to Sky Sports for mobile TV platforms should also be enshrined.

Ofcom has taken much time considering the issue of premium content supply and the market is reaching an important inflection point with the potential launch of Canvas when transparency over the terms of premium supply, including access to Sky Sports, will be crucial. Despite this, Orange believes that if a satisfactory solution cannot be found that ensures strong competition in regard to premium content distribution, then the matter should be referred to the Competition Commission for a full inquiry. This might include re-opening the issue of upstream markets and the collective selling of pay-TV rights by all 20 Premier League football clubs.

## ***II. Enabling Canvas on a fair basis***

Owing to the importance of the BBC in achieving next-generation broadband and TV services (particularly for non-BSkyB, non-Virgin homes), the BBC should be required to ensure that any partnership arrangements involving Canvas and third parties are not constructed on terms that favour incumbents.

Given its considerable investment in BT Vision to date, BT may be prepared to accept commercial terms with regard to promoting a Canvas-compliant service that would be economically unviable for a new entrant. In particular, Canvas and its owners should be obliged to consider fair ways of sharing both the benefits and the costs of driving DTT 2.0 and open standards for content delivery via broadband, on a basis that does not disadvantage new entrants. Business models might allow for sharing of advertising revenues from VOD, for example, between broadcasters and network providers, or for a contribution to the incremental costs incurred by network providers for increased traffic and customer service management; all Canvas-compliant boxes should be capable of supporting pay-TV services to allow operators to create hybrid pay/FTA models.

Orange is concerned that the advantages of supplying Canvas-compliant services through any ancillary offering such as pay TV or complementary VOD services will not cover the overall costs of upgrading networks and supplying network access, and that more direct forms of support to Canvas network partners will be needed. These might evolve out of commercial arrangements between the Canvas partners and network operators (as qualified by any regime imposed by the BBC regulator, the BBC Trust) or might form part of general initiatives under NGA/DSO funding.

On a related issue, the nature of any PSB supply of VOD services to Canvas-compliant devices (or any other platform) will be important in ensuring a role for new entrants in next-generation content distribution. In reference to the possible creation of a second pure PSB, involving a re-positioning of Channel 4, we would be concerned about any solution that reduces competition

among PSBs in the distribution of VOD content to platforms (mobile, broadcast or fixed line), and potential mergers should be viewed in part in this light.

### **III. Access to catch-up and archive content**

VOD services will be highly dependent on programming owned or controlled by the UK's major broadcasters, and in particular the BBC and ITV. Any attempt to aggregate that content to a single platform controlled by all or substantially all the PSBs or to create a destination portal controlled by them where all PSB content is available should be resisted. Mobile network operators seeking to develop mobile TV platforms (including TDTV) also need security and certainty of PSB programming, including simulcast. Orange believes that any action taken in regard to content supply between the broadcasters and independent producers should result in better, rather than more restricted, access by third parties to catch-up and archive content. In addition, any measures to help develop digital content should only be considered when the content is available to all platform operators and distributors on fair terms.

### **IV. Bundling and market foreclosure**

Further consideration should be given the way in which services are bundled in the UK, and in particular by companies with a dominant position in one segment of the value chain (BSkyB in premium content or BT in telephony and broadband). Once the issue of dominance is addressed, a level playing field will permit all players to compete effectively.

### **V. Funding and pricing models for NGA**

If next generation devices are to be network-neutral the network operators should be allowed to price broadband differentially to address increased costs associated with services delivered over their networks that do not generate revenues for the operator. Any regime established to encourage NGA must reflect traffic and usage outcomes. If there is to be a tax regime to support NGA, the Government should include potential credits to ensure the development of mobile TV networks. Crucially, if the BBC's Digital Switchover Help Scheme is to be re-directed toward supporting Canvas or other aspects of NGA, then the benefits must be available to all players committed to playing a role in network upgrade and next-generation service provision.

Orange believes that content distributors that benefit from the network should be obliged to contribute in some measure, either through the sharing of the benefits they derive from access to the network or through cost-sharing, to the costs of network upgrade/build for NGA and on-going cost burdens. In particular, any outcome driven by the state broadcaster, the BBC (e.g. Canvas) should be specifically reviewed in the context of NGA funding requirements. Orange points out that there is a clear precedent for content distributors and broadcasters to bear the cost of network upgrade and running costs, in the case of the terrestrial digital television network, which is being upgraded for DSO by Arqiva, with a proportion of the costs being borne by the BBC, ITV and Channel 4.

### **VI. Orange future intentions**

Orange proposes to play its full role in creating the content and service propositions that will find consumer favour in the context of next generation access if the major obstacles raised our submission can be addressed satisfactorily. In particular, and in keeping with the established strategy of its parent in other major markets, Orange seeks to provide a 'three screen' offering in the UK, addressing the PC, the TV and the mobile handset, with a strong retail footprint and



brand-building presence, a compelling suite of services, attractive content, exemplary customer support and market-leading quality of service.

Orange is specifically keen to offer premium content, catch-up and archive, and a range of subsidiary services likely to appeal to consumers, as part of a mobile TV platform and through commitments to fixed-line content distribution via IPTV and/or DTT broadcast. Orange sees our content aspirations as being firmly associated with its intention to be a full partner in securing NGA, both wireless and fixed line, for all UK homes, provided the regulatory, funding and business frameworks are conducive, fair and transparent.

## SECTION 5 - DIGITAL SKILLS AND INCLUSION

- Orange supports the Government's ambition to utilise technology in public service delivery and engage citizens.
- Orange supports the Government's concept of a digital champion and thinks it should stimulate uptake of services more broadly especially in rural areas.

### 1. Introduction

In this section Orange considers the issues of digital skills and inclusion, which relate to Actions 19, 21, 22 of the Interim Report

Orange has grouped them together in this way, as these issues all relate not to the geographic availability of broadband (and related technical and commercial considerations) but rather to consumers' willingness and ability to adopt and use a wide-range of digital and online services.

Many of the issues addressed in the Interim Report are primarily for the Government and Ofcom to address and work is already underway in that regard, principally through the Digital Inclusion Action Plan and Ofcom's work on media literacy, however Orange recognises that industry also has a role. Orange believes that to ensure active industry participation (especially in the field of media literacy) the industry must be allowed the freedom of genuine self-regulation without the threat that prescriptive regulation might ultimately be imposed.

### 2. Current Status

#### *1. Digital Inclusion*

The Interim Report (and to a greater extent the Digital Inclusion Action Plan) describes the risks of digital exclusion and how it can both result from and be a cause of social exclusion. The issues are well understood and described in some detail in chapter 2 of the Action Plan. By way of example:-

- Young people may not reach their academic potential without home access to ICT
- The unemployed may be denied access to job opportunities
- Citizens may be denied access to information, advice and public services
- The disabled can be significantly assisted by technology solutions
- Technology can assist older people to maintain independent living and combat social isolation
- Technology can assist communities (helping them to become sustainable) and particularly rural communities who may otherwise be isolated and denied access to public services

The Action Plan includes many good practice case studies and also lists all the relevant policy areas and related current initiatives which are ongoing. However, in doing so, it highlights the Government's most significant challenge, which is to bring all of these initiatives together into some kind of co-ordinated strategy. The policy areas listed touch many Government Departments

and deliver many benefits in their own right but Orange believes much more might be achieved if the initiatives were brought together as part of a wider strategy. The appointment of the Minister for Digital Inclusion, the resulting Action Plan and the support of the Cabinet Committee for Digital Inclusion, Cross-Government Digital Inclusion Team and Digital Inclusion Champion are all designed to address this situation and are, therefore, to be welcomed.

In section 3.1, the Interim Report considers what may be done to assist the creative industries and what funding mechanisms may be available. The report appears to blame online advertising for a decrease in revenues to content producers, as if this is a problem which needs to be fixed. The issue is relevant to digital inclusion, because in reality, it is the very existence of online advertising, which makes content available for free and drives adoption and usage.

## **II. Digital Skills**

As the Interim Report makes clear, the issue of digital skills is very broad, encompassing much of the Government's broader education and skills agenda and "the challenges are long-standing and deep-seated". Orange's interest and expertise lies in the broader 'digital life skills'. In 2008, Orange introduced a new strategy, known as 'the Agenda', which is about a relentless focus on serving the interests of the customer in every way. The entire business was re-organised in a more customer centric manner and a raft of new initiatives have been introduced to ensure that everything we do, is done for their benefit.

In addition to our general customer focus, Orange (in association in part with other mobile and broadband providers) has taken the lead in self-regulatory media literacy initiatives, for example:

- The mobile operators jointly launched a 'Code of Practice for the self-regulation of new forms of content on mobiles', which by default bars anyone under 18 from accessing over 18 content.
- The mobile operators jointly launched a 'Code of Practice for the use of mobile phone technology to provide passive location services in the UK', which ensures that location services can only be used with full knowledge and consent.
- The mobile operators jointly published a good practice guide for 'Mobile Services for the elderly and customers with disability' and the 'Mobile Industry Good Practice Guide for Service Delivery for Disabled and Elderly Customers in the UK' to help those consumers understand how to get the most out of mobile services and encourage providers to develop suitable services.
- Orange is a full member of the Internet Watch Foundation and thereby blocks access to all illegal images of child abuse.

In addition to these specific initiatives, Orange ensures that a wide range of information and support are made available to our customers (and the wider community) to help them develop their digital skills, get the most out of their mobile and broadband subscriptions and stay safe and aware. By way of example:

- All of Orange's retail stores are staffed by phone trainers and contact centres are staffed by skilled operatives able to answer any queries and guide customers along the journey of understanding technology and how to use it.
- Orange has published a guide, entitled 'What parents need to know', giving parents information on range of topics from adult content and social networking to bullying and



mobile phone theft, in addition to which a similar range of information is provided directly on our website.

- Orange has produced a series of DVDs and accompanying study materials for the use of secondary schools on the subjects of: online safety, text bullying and handset theft and we are the process of developing material for primary schools. Well over half of the UK's secondary schools use these materials.
- Orange is developing a parental toolkit offering practical advice and debate around internet safety issues, designed to be delivered through schools at parents evenings.

Orange also provides a range of other help and support to customers. On the web, Orange offers free parental controls and privacy service, as well as employing stringent notice and takedown procedures. Orange also operates professionally moderated chat rooms and a dedicated malicious calls bureau.

In 2008 Orange commissioned academic research from the University of Central Lancashire to understand how consumers use the web. Over 40,000 people took part in the survey, which provided unique insights into the generational digital divide between parents and their children. By understanding the digital skills that consumers do and do not have, we are able to tailor the support which we provide to them accordingly.

In addition to all of the above, Orange has also been closely involved in the Byron Review process leading to the establishment of the UK Council for Child Internet Safety (as Orange had previously been closely involved in the Home Office internet taskforce).

### **3. Risks and Issues**

#### ***I. Digital Inclusion***

Digital exclusion can clearly have adverse effects on the individuals it affects and consequently on wider society in which they participate. There are many reasons why an individual may be excluded, which can broadly be grouped into four categories, namely availability, cost, choice and confidence.

Issues of availability and cost are dealt with elsewhere in this response but the issues of choice and confidence (or skills) are also very important. The Government needs to acknowledge that some people may legitimately choose not to use online services.

Understandably, the Government sees online technologies as a highly effective and cost efficient means of delivering public services and suggests that availability of public services online may drive take-up. Orange believes, however, that entertainment, e-commerce, email, social networking, user generated content and access to a broad range of information, as well as the ability to work from home are more likely to be the prime drivers for adoption and the issue of free (advertising funded) content will be highly relevant because it will be critical in driving adoption. Nevertheless, Orange would strongly support any measures by the Government to increase adoption and usage and the ease of use and availability of an increasingly broad range of online public services may well be a means of achieving it.

The difficulty however, is that there is no overarching framework or means of interacting with the public sector. Orange currently deals separately with individual local authorities, police/health/fire authorities and even central Government departments, each of whom have different and specific

requirements. Were there a central Government strategy publicising and co-ordinating delivery of such solutions then more might be achieved to drive adoption and usage of on line public services.

The Government also needs to consider what incentives might be provided in order to stimulate adoption and usage. Orange is aware of the Minister's Taskforce on Home Access to Technology and the variety of Government programmes to increase access under the umbrella of the Home Access initiative led by the Department for Children, Schools and Families (DCSF). Orange is also aware of funding provided by the DCSF to provide computers to the most disadvantaged households through the Computers for Pupils programme. Orange strongly welcomes all of this but believes more can be done by way of direct financial incentives, such as providing subsidised equipment and software to low income households or direct grants/vouchers to purchase equipment. If the Government is serious about reaching those on the margins, direct financial assistance may be the only effective solution.

More generally, as the Interim Report acknowledges, the process of encouraging online adoption by elderly, and disadvantaged households in particular, could draw on key lessons from the digital switchover scheme. It proposes "working with industry to develop affordable, reliable and easy to use IPTV boxes". In principle, Orange supports the wider availability of IPTV and the development of a competitive market. Orange's Group strategy is to provide a 'three screen' offering via the PC, TV and mobile handset and we would wish to deploy that in the UK. There are, however, significant regulatory obstacles which need to be overcome, if such an offering is to be commercially viable for Orange and these have been explored in some depth in the digital content section of our submission addressing these content issues.

## **II. Digital Skills**

Without doubt, operators have strong commercial incentives to develop the digital and media literacy skills of their customers. In simple terms, media literacy drives adoption and usage (particularly of increasingly complex mobile devices/3G dongles) and usage drives revenues. Furthermore, in a competitive market, customers will be drawn to the provider who provides the simplest customer experience and the best levels of customer service and ongoing support.

The Government, regulators and industry have a strong mutual interest in increasing levels of digital skills and media literacy and failure to do so has adverse consequences for all parties, not least the individuals concerned.

From the perspective of a mobile operator, there is an urgent need to develop new revenue streams from online and data services. As voice services reach maturation and the combination of fierce competition and regulation significantly reduces profit margins, increased use of data is the main area of potential growth. So future revenue streams depend on customers wanting (and having the skills and confidence to be able) to use increasingly complex data services, particularly paid for content. If customers cannot use the technology, they may simply give up on it or be less willing to upgrade to compatible devices. This in turn raises the spectre of wasted industry costs investing in networks, technology and services, which are not used to the extent required to make a sufficient return.

Similarly, from an ISP's perspective, future revenue streams and the prospects of building a profitable business depend on customers not only having access to broadband, but having the skills and knowledge to use it to offer a greater variety of content.

From the Government's perspective, there is the risk that a lack of digital skills could lead to a sector of society being permanently excluded from digital participation, which may in turn make

them more likely to be socially excluded. This could lead to them missing out on certain opportunities summarised in 2.1 above.

## 4. Proposals and Recommendations

### I. Digital Inclusion

Clearly, there are steps which the Government, Ofcom and industry can take to increase levels of digital inclusion, which are much wider than simply making public services available online. Issues of universal service, NGAs and content are all vital elements which are dealt with elsewhere in this response.

In this section, Orange addresses the use of technology by the public sector in providing public services. Whilst recognising that online public services are unlikely to be the key driver for adoption amongst the majority of the population, Orange strongly agrees with the Government's ambition to ensure that they are "designed for ease of use by the widest range of citizens".

Orange believes the Government should focus on developing a well-considered and coherent strategy for making public services available online and also how technology can be used by the public sector to increase the efficiency of service delivery. Orange has significant expertise in this regard, having held a number of Parliamentary seminars about how technology can be used in various parts of the public sector including: health; education; transport; criminal justice and local Government, which included live demonstrations of the technology currently available.

In addition, the Government should consider how it and Parliament could use technology to increase interaction with citizens, increasing their participation in the political process and their engagement with public services more generally.

The Future of Politics Report (produced by Orange in association with the Future Laboratory and available at <http://pressoffice.orange.co.uk/imagelibrary/detail.asp?MediaDetailsID=495>) provides some groundbreaking ideas in that regard, having spoken to a range of stakeholders about how they believe technology can and will be used in the future. Taking lessons from the US, it proposes a number of ideas that would allow citizens to be involved in the development of policy and help democracy work better at national and local levels.

The Interim Report refers to the fact that the Government cannot achieve all of this on its own and that private sector involvement is necessary. Orange stands ready and willing to engage with the Government (and particularly the Minister for Digital Inclusion and the Digital Inclusion Champion) to discuss and understand what form of involvement is being sought in order to achieve its ambitions. The role of the Digital Inclusion Champion will be critical, but also extremely challenging. The remit must be kept tight and focussed in order to ensure that the objectives can realistically be met. An overly broad or ambitious approach risks creating an impossible task, that may ultimately result in little if anything being achieved.

The principal point to address is, as explained in 3.1 above, that there is currently no means by which a company such as Orange can engage with the Government in a strategic or overarching manner to address these issues. Where engagement does occur it is generally only at a level of the procurement of communications equipment. There is no policy perspective or consideration as to how technology can assist the public sector per se, but rather there is a fairly basic negotiation about the provision of basic equipment at the best price. Orange believes, in simple terms, if the Government wants and expects private sector involvement it is going to have to be much clearer about what it is seeking and create the necessary framework to allow it to occur.

As the interim report acknowledges, the Digital Inclusion Champion must also take a lead in encouraging adoption of broadband, particularly in those parts of the country which the Government intends to be reached by virtue of the USO. Adoption and usage are of course critical to the business case for potential universal service providers and therefore the role of the Digital Inclusion Champion takes on an even greater significance.

Finally, the Government must also be careful not to do anything which undermines the advertising funded free content model. Whilst, Orange understands concerns that content providers must receive an adequate return on their work, there is nothing that currently prevents that from happening. If the market dictates that consumers want advertising funded free content, the Government should not do anything to hold it back.

## **II. Digital Skills**

Many of the Government's ambitions in this regard concern its core policies on education and skills. Orange recognises the huge challenge in producing a digitally skilled workforce. Orange has outlined above the wide range of initiatives which Orange is undertaking to address this challenge and believes that industry has a significant role to play in each of Ofcom's defined areas of media literacy, namely "access, understand and create".

- 'Access' - these issues are discussed elsewhere in this response, but broadly most of the factors lie within the control of industry, such as availability/coverage, device, cost, ease of use and content
- 'Understand' - issues of simplicity and ease of use are core to Orange's approach to dealing with customers. More generally, mobile operators in particular have an unrivalled 'training resource' of thousands of retail and call centre staff able to assist customers in using technology
- 'Create' – mobile devices are becoming the key instrument for user-generated content, whilst social networking is of course an entirely online phenomenon, which is increasingly moving onto mobile platforms

As a general principle, operators are always best placed to understand the genuine needs of their customers in accessing content, but it requires a freedom from regulation to be allowed to do so. In that environment and for all of the reasons outlined above, Orange will continue to identify and address any issues with which customers require support to maximise their use of products and services. All industry players are incentivised to maximise the customer experience in order to: acquire customers in a competitive market; drive adoption and usage; and develop a long-term relationship of trust with the customer.

Prescriptive regulation will only serve to stifle content creativity and deter usage, as consumers do not want tightly regulated internet content. Certain forms of filters or granular content sign-posting may appear superficially attractive from a regulatory or policy perspective, but as we have demonstrated above, we believe that in a competitive market these issues are far better addressed by industry players than regulators or policy makers.

## SECTION 6 - DIGITAL RIGHTS

- Orange broadly supports the proposals from the Government that aim to address the problem of illegal peer to peer file sharing but is concerned about the possible scope, powers and funding of a Rights Agency.

### 1. Introduction

In this section Orange considers the issues of digital skills and inclusion, which relate to Actions 11, 12, 13 of the Interim Report

Orange recognises and accepts that there is a serious problem with civil copyright infringement on the internet and has always been willing, and remains willing, to participate in constructive dialogue about the way that it, and ISPs generally, can reasonably help rights-holders combat that problem. That is why Orange signed the Memorandum of Understanding on unlawful file-sharing on P2P and why it actively continues to seek to identify ways in which it can assist rights-holders while not unduly prejudicing its or its customers' legal rights or legitimate interests.

Orange therefore believes that it is worth the industry discussing the potential for a Rights Agency but has significant concerns with the proposal, which it outlines below. Orange would also welcome the Government setting out in more detail what role it thinks the Rights Agency would have. It is not immediately clear whether the Government has in mind a clearing house for rights, a high authority similar to the current French proposals, or indeed anything else.

Orange will also identify in this response some core principles to the notification letters and data sharing solutions proposed by the Government, which it hopes will be useful to inform the Government's thinking.

### 2. Current Status

In this part we will outline current developments in the UK in relation to combating copyright infringement of content on the internet and Orange's position in relation to key developments in this area.

The Government has been committed for some time to find solutions to the serious problem of copyright infringement on the internet. The Government has sought to encourage the creative and internet access provider industries to find industry solutions. As a result, in July 2008 the Memorandum of Understanding on unlawful file-sharing was signed by the big six ISPs and rights-holders (the "MoU") which objective was to reduce infringement of unlawful file-sharing on Peer to Peer (P2P) networks by 70-80% in 3 years.

Orange has been supportive of this policy debate and is a signatory to the MoU.

At the same time, the Government consulted on the proposal of a co-regulatory approach based on the principles of the MoU namely a notification process whereby ISPs would write to subscribers whose account has been allegedly identified as infringing, a discussion of methods for dealing with alleged 'repeat offenders' including technical measures and application of technical remedies at ISP network level, the consideration of education programmes to change users' attitudes and discussions about the effectiveness of currently existing business models.



Orange responded to the Government's consultation on legislative options to address illicit P2P file-sharing and expressed strong views against the Government imposing a co-regulatory regime premised on the MoU. The Government's co-regulatory approach did not attract widespread support and as a result the Government concluded that it is not possible to proceed with the preferred solution as set out in the consultation.

The key aspects of the proposals relating to copyright infringement contained in this report are that the rights-holders are responsible for copyright enforcement; for taking direct legal action against alleged copyright infringers; and an agreement that ISPs can and should help reduce digital content piracy. Orange has consistently maintained that the enforcement of copyrights should be the responsibility of the rights-holders and that it is not appropriate for innocent intermediaries to bear the costs of enforcing private legal rights. Orange has also consistently rejected disconnection of users' internet access as a disproportionate response to the problem and is pleased that the Government is no longer considering legislation to this effect.

The Government proposes the continuation of the letter-writing process together with agreement by ISPs to disclose anonymous data on repeat infringers so that the rights-holders can take more targeted litigation action (following the process of going first to court to obtain an order for the disclosure of personal details of a repeat offender). The Government is proposing to imminently publish a consultation document on various options for the working of a solution. Orange will respond to this coming consultation document.

Orange believes that sending notification letters to its customers will play an important part in the education campaign to combat copyright infringement online and Orange is also willing to assist the rights-holders in educational programmes to respect copyrights provided that commercial agreements are in place with individual rights-holders. Orange is also committed to give reasonable support to rights-holders to take direct legal action against their chosen litigation targets if rights-holders are committed to pursuing litigation action as part of their strategy to combat copyright infringement online. Orange is pleased that the Government has unambiguously rejected any plans for ISPs to undertake monitoring of their customers' activities online.

The Government also proposes the creation of a Rights Agency to discuss new business models and education, prevention (including DRM) and enforcement, funded by rights-holders / ISPs. Orange understands that the Government intends to issue a paper setting out in clear detail the role that such Agency would have. Orange would welcome the publication of this paper to further inform its thinking about the Rights Agency.

Orange is eager to develop new and innovative business models by bi-lateral agreements with rights-holders. Orange would encourage the Government to make support for progress being made on licensing and structural reform. The primary focus should be on initiatives aimed at growing channels to market for digital content and completing the licensing and structural changes required to achieve this goal. Orange is engaged in the wider policy debate on the future of copyright which addresses some of these issues.

### **3. Risks and Issues**

#### ***1. New Business Models***

Orange believes that the real key to combating unlawful file-sharing and copyright infringement online is (a) education and (b) the development and popularisation of legitimate and compelling content distribution business models. It does not see, however, how the Rights Agency could be the right vehicle for the industry to discuss incentives for legal use of copyright material, like new business



models, since (for both competition law and other commercial reasons) any agreements would have to be bi-laterally discussed and agreed between an individual ISP and an individual rights-holder.

Orange is contributing to the debate about the future of copyright, and is feeding some separate feedback to the Intellectual Property Office (“IPO”) (as part of its consultation on the future of copyright) about current issues it faces when deploying new content services including complex and prohibitive licensing issues and copyright royalties.

## **II. Education**

Although educating consumers is also key to combating unlawful file-sharing and copyright infringement online, Orange sees this primarily as the responsibility of rights-holders. Orange believes that sending notification letters to its customers will play an important part in the education campaign to combat unlawful file-sharing but it does not see why one industry should be forced to invest in education campaigns and financially support another's third-party rights enforcement (such as, for example, the ones proposed by the IP Trust and the UK Film Council). It is clearly the rights-holders' responsibility to increase awareness about the value of their products. Orange also considers that its future commitment to sending notification letters to its customers should be matched by rights-holders committing to deliver new high-profile campaigns to support the messages ISPs are delivering direct to customers in the notifications. In Orange's view, education is often more important than legal rules in determining user behaviour.

Orange marketing activity and spend is carried out for the purpose of marketing its own products and services but ISPs are distinctly different in their individual propositions, customer interfaces and communications styles. Orange has commercial operations and contracts with organisations and businesses wishing to communicate with its customers and Orange is only willing to enter into such arrangements with third parties on commercial terms. Of course, should any rights-holders wish to promote their messages, for example via banners and newsletters, they can enter commercial discussions to buy such media like any other business or organisation, including Government, publicly-funded organisations and charities. Again, Orange does not consider that the Rights Agency would be the adequate forum for such bi-lateral commercial marketing / advertising agreements.

## **III. Prevention of civil unlawful use of copyright by consumers**

Orange is, however, very concerned that any future discussion about the prevention of civil copyright infringement will bring back to the table the graduated response advocated by rights-holders, under which a combination of technical measures to prevent copyright infringement could lead to suspension or termination of a broadband internet access account if a customer persists with their alleged infringing behaviour. Orange thinks that this would be counter-productive, damaging to the Digital Britain agenda and continues its strong opposition to any such form of graduated response mechanism. This proposed solution, which is still strongly advocated by the music industry (despite public statements to the contrary), cuts across basic principles of common law, user rights and ISPs' legitimate commercial interests and would fail a straightforward costs-benefits analysis.

Furthermore, Orange considers that the more the focus is on anti-file sharing and anti-piracy prevention, the less incentives rights-holders have in developing new business models (particularly ones which include ISPs within revenue share). This creates perverse incentives, and legislation or regulation should not facilitate it.

It is vitally important to promote new business models if the longevity of the creative industries is to be assured. If consumers' legitimate needs and expectations are not met by lawful services, some will undoubtedly continue to be tempted by illicit services.

#### **IV. Technical copyright-support solutions**

One of the problems with DRM technologies is that they compromise the consumer's capacity to exercise legitimate rights under copyright law, such as fair use. They also potentially make copyright last forever (providing longer protection than that provided by the law) and may provide protection regardless of whether or not what they protect is actually protected by copyright law. Technical measures can also control acts that cannot be restricted through copyright, as well as controlling acts that infringe copyright. Content owners may also impose contractual terms and conditions incorporated into the technology on the users which may arguably threaten the balance of rights the copyright regime is trying to achieve (the users' bargaining power is lesser than the content owners and the choice left to the users is whether or not to buy products with DRM systems).

There is clearly a steady rise in the amount of DRM-free music being offered by major music publishers indicating that market power plays a role in the use of DRM, in this case in favour of users who clearly do not want DRM. Although the use of DRM is still evolving, Orange believes that it has great potential to harm and, indeed, Orange thinks that DRM is a clear obstacle to compelling legitimate services. DRM systems are undermining fundamental public policy considerations under copyright law where they prevent users from exercising their legitimate rights and threatening to upset the balance of the copyright regime in favour of the copyright holders. If content and devices are encouraged to become tied via DRM, this could also hinder competition. In short, Orange does not think that technical solutions are the right solution and if users dislike DRM so much they will find ways to circumvent these technology measures, and it is clearly not in anybody's interest to increase the risks of driving underground behaviours and culture. Unfortunately the less flexible or user-friendly a copyright-compliant service becomes, the more attractive the unlicensed free alternative becomes.

Orange remains unclear as to whether it is suggested that other types of technologies should be explored, such as filtering technologies. As discussed above, technology measures are unlikely to be successful. Orange has undertaken significant analysis under the MoU process, and believes that the application of technical solutions at an ISP network level would have a lot of unintended consequences (and could exacerbate the problem of online copyright infringement) and would, ultimately, prevent the ISPs achieving the quality and speed of broadband service at the heart of Digital Britain. Indeed, technical remedies are likely to affect subscribers' access to legitimate services, be expensive to implement and operate, may be exposed to the evolving technical threats and are likely to give rise to issues around fair or proportionate treatment. Therefore, Orange does not see any benefits in progressing any technical solutions to be applied at a network level.

In relation to the application of technical remedies against repeat offenders, Orange believes that most remedies would in practice amount to de facto account suspension or termination of the internet access account. Orange reiterates that any form of graduated response including technical measures against repeat offenders would be disproportionate, counter-productive and inhibit the development of innovative business models.

#### **V. Enforcement**

Orange is very concerned at the suggestion that the Rights Agency may be given some enforcement powers. It is unclear why the Rights Agency should have any enforcement powers, and what these should be. Orange benefits from the legal status of a 'mere conduit' and does not partake in or benefit from online copyright infringement. The Electronic Commerce (EC Directive) Regulations 2002 recognise the public interest in intermediaries providing the infrastructure for the development of the UK's digital economy and society by granting such immunity from any liability arising from the conduct of their users. In any event, any enforcement powers given to the Rights Agency would have

to be consistent with the law, particularly with the principles set out in the E-Commerce Directive. Orange struggles to see how a body designed to facilitate cooperation between the stakeholders could effectively fulfil an enforcement role (particularly when enforcement is aimed at one party to the negotiations). Orange further queries whether there is any need for it to do so given the existing and sufficient powers of the courts. In other words, the fact that rights holders have opted not to utilise their existing legal powers should not lead to a new enforcement agency being given such powers. This also affects the funding model for the Rights Agency. In such a situation it would be of equal importance for the Rights Agency to focus on whether rights-holders are developing new and innovative models of content distribution, including those that allow ISPs to monetise this activity.

## **VI. Funding of a Rights Agency**

As stated above, Orange does not think it is appropriate for it to fund a Rights Agency that would only be to the benefit of the rights-holders. This would ultimately become an ‘anti-piracy tax’ on all consumers, whether or not they infringe. Orange does not understand why one industry should be asked to fund the protection of another industry’s commercial interests. In addition, this ‘tax’ would destroy all incentives for rights-holders to innovate and would also prevent the development of ISPs’ own content offerings. Rights-holders should be encouraged to create new and innovative business models, including by using ISPs’ existing commercial relationships with their customers.

### **I. Unlawful file-sharing on P2P networks**

Orange agrees with the Government that the co-regulatory approach advanced in the BERR Consultation on Legislative Options to Address Illicit Peer-to-Peer (P2P) File-Sharing was not the right approach.

Orange understands that further to the Government’s response on the above consultation, the intention is to place obligations on ISPs to send notification letters on a costs-sharing basis and require ISPs to disclose anonymous information which will enable the rights-holders to take targeted civil litigation action after going through the process of applications for third party disclosure of user details (known as *Norwich Pharmacal* orders) to obtain disclosure of the customer’s personal information.

Orange welcomes the fact that the Government has unambiguously recognised that ISPs should not be monitoring their customers’ activities, and the importance of data protections laws and users’ privacy rights.

A Rights Agency suggests a body would be created to exclusively protect and enforce the “rights” of rights-holders, and Orange does not see how it could become a member of such an Agency thereby associating Orange with the protection and enforcement of third party rights.

## **4. Proposals and Recommendations**

Orange understands that the Government would be grateful for any initial thoughts on P2P and Action 13 as soon as possible. Orange’s intention is to provide relevant information to the Government about the way Orange thinks the solution might work and organise a meeting if time allows and to discuss this proposal in further details. Orange will also respond to the coming consultation document on Action 13.

Orange would, however, like to outline in this document some high level principles that it considers crucial for the working of any solution, which are as follows:

## **I. Costs**

Orange believes that the principle of costs recovery is crucial to this process, and that any reasonable solution must place the costs on the party that benefits from the systems in place, in this case the copyright owners.

If the costs of implementing this process are imposed on ISPs, rather than on rights-holders seeking to enforce their private legal rights, this would impact ISPs' ability to invest in the infrastructure to support the Digital Britain Agenda, driving up the cost of broadband access for consumers and effectively becoming a tax on legitimate internet use.

Orange strongly submits that the costs of enforcing private legal rights should rest on the rights-holders (and the infringer if those rights are found to be infringed).

## **II. Innocent Third Party**

Any solution would need to recognise the ISP's role is protected by European law as an innocent intermediary and avoid putting the ISP in a position where it would be forced to usurp the role of the courts in determining, in practice if not in theory, private rights and obligations as between third parties (namely the rights-holder and the customer).

## **III. Communications**

Orange believes that it is crucial that it retains ownership and full discretion of its communications (and contents) with its customers.

## **IV. Volume and Source**

The volume of letters should be subject to reasonable caps, and there should be reasonable and clear understanding of which content owners are part of this scheme. It is strongly recommended that a content owner would need to be represented by a recognised body.

## **V. Liability**

Orange is concerned at the proposal that potential civil legal actions may be taken by rights-holders if legislative duty is not discharged by ISPs. As a matter of legal policy, Orange would not be in a position to give any warranty as to the accuracy of the information it gives to any rights-holders, given the impossibility of Orange guaranteeing that the individual allegedly responsible for the act of copyright infringement is the same person as the registered account subscriber.

Orange would propose that the Government legislates to the effect that ISPs are not hold responsible for the identification and data sharing process, and in particular absolve the ISPs from related civil actions.

In addition, ISPs should be held harmless by the rights-holders (by way of indemnities and compensation) for any losses incurred by the ISPs resulting from incorrect allegations of file sharing. Furthermore, rights-holders should be prevented from joining an ISP in any civil action by or against customers or consumer groups.

## **VI. Litigation**

Since rights-holders seem very reluctant to take litigation action, ISPs would need to be comforted that litigation action would become part of the rights-holders' strategy to combat unlawful file-sharing



otherwise there would obviously be no rationale for ISPs to implement any systems to help the rights-holders to take targeted action. Orange is of the view that rights-holders would need to recognise this and make all best endeavours to pursue the targeted litigation avenue.

Orange feels very strongly that as an innocent intermediary, it should not play any role in deciding about the rights-holders' litigation targets.

#### **VII. Other devices - mobile**

Orange would like to draw the Government's attention to the fact that there are technical problems to overcome in relation to mobile internet identification of mobile subscribers and the fact that it does not hold a great deal of information (if any) about pay-as-you go customers. Therefore, Orange submits that the Government undertakes a formal costs-benefits analysis before it imposes any obligations on ISPs or mobile operators in relation to mobile internet data.

#### **VIII. Level-playing field**

Orange believes that there should be no exemption for small ISPs when new rules come into force. To exempt small ISPs would clearly give them a competitive advantage vis-à-vis compliant ISPs and may lead to migration of customers to those non-compliant ISPs.

#### **IX. Codes of Practice**

Orange does not object to Ofcom overseeing and enforcing codes of practice on the issues of notifications and data disclosure particularly given that Ofcom has a duty to take into account customers' interests and to focus on proportionality. Any role Ofcom takes would of course need to be strictly within its powers under the Communications Act 2003 or otherwise validly authorised by primary legislation. Orange does not see any benefits of creating a Rights Agency for the purpose of administering these Codes of Practice. Equally Orange does not see any benefits in creating a Rights Agency to mandate Ofcom to create and approve these Codes of Practice.

## APPENDIX 1

### ACTION POINTS

#### ACTION 1

*We will establish a Government-led strategy group to assess the necessary demand-side, supply-side and regulatory measures to underpin existing market-led investment plans, and to remove barriers to the timely rollout, beyond those declared plans, to maximise market-led coverage of Next Generation broadband. This Strategy Group will, by the time of the final Digital Britain Report, assess the case for how far market-led investment by Virgin Media, BT Group plc and new network enterprises will take the UK in terms of roll-out and likely take-up; and whether any contingency measures, as recommended by the Caio review, are necessary.*

**Orange response:** We support this action and would welcome the opportunity to be involved in the Government-led strategy group to engage with on this topic. Orange believes it is necessary to form a balanced governance to direct this initiative. We believe we need to address the means of providing universal broadband through both fixed and mobile technologies specifically focusing on the white zones.

#### ACTION 2

*Between now and the final Digital Britain Report, the Government will, while recognising existing investments in infrastructure, work with the main operators and others to remove barriers to the development of a wider wholesale market in access to ducts and other primary infrastructure.*

**Orange response:** Orange supports this action, so far as it goes. Access to duct – and possibly dark fibre – could be extremely valuable in freeing up backhaul constraints. This will be essential if NGA is to deliver its promised benefits on an end-to-end basis. However, Orange strongly believes it must be coupled to a wider programme, targeted at the same ends, if it is to deliver.

#### ACTION 3

*The Valuation Office Agency has provided new, clear guidance which addresses the problem of clarity over business rates identified by Francesco Caio in his report, and will ensure that they respond to any queries from existing and new investors and maintain clear, helpful guidance. For its part, the Government will ensure that the guidance is widely understood by potential investors.*

**Orange response:** Orange supports this action. The UK business rates regime has caused a variety of difficulties in relation to existing broadband networks and Orange agrees that the approach used for cable could sensibly be applied to NGA. However, Orange has some doubts about whether this alone – while it is welcome - will make a significant difference. It would also be valuable for the scope of this action to be widened to encompass a broader review of rating reform with a remit to recommend more radical options.



#### ACTION 4

*We will, by the time of the final Digital Britain Report, have considered the value for money case for whether public incentives have a part to play in enabling further next generation broadband deployment, beyond current market-led initiatives.*

**Orange response:** Orange supports the creation of a Government-led strategy group and recommends that it undertakes an independent assessment of the viability of competitive investment in NGA, working with industry and building on the Caio Report and the Digital Britain Interim Report.

#### ACTION 5:

*The Government will help implement the Community Broadband Network's proposals for an umbrella body to bring together all the local and community networks and provide them with technical and advisory support..*

**Orange response:** Orange supports this action. Orange welcomes community broadband projects such as those highlighted in the report and agrees that isolated 'islands of connectivity' using different standards would be an undesirable outcome.

#### ACTION 6

*We are specifying a Wireless Radio Spectrum Modernisation Programme consisting of five elements:*

- I. *Resolving the future of existing 2G radio spectrum through a structured framework, allowing existing operators to re-align their existing holdings, re-use the spectrum and start the move to next generation mobile services. This must be achieved whilst maintaining a competitive market. If this can be done, the economic value of the spectrum would be enhanced. Existing administered incentive pricing (AIP) levels would be adjusted to reflect that enhancement. The Government believes that an industry-agreed set of radio spectrum trades could represent a better and quicker solution than an imposed realignment. There is an opportunity for industry to agree a way forward by the end of April 2009. In the absence of an industry-agreed trading solution by then, Government will support an imposed solution.*

**Orange response:** Orange looks forward to engaging with the industry and the Independent Spectrum Broker on these issues and looks forward to a successful outcome that encourages a competitive market through a level playing field. Orange strongly believes that to offer a universal broadband service on an anti-competitive basis, we must be allocated 2x5 MHz contiguous 900 MHz spectrum by the end 2010, and that O2 and Vodafone must be prevented from refarming their 900MHz spectrum until that time.

Orange would encourage BERR to ensure that UMTS licences are extended indefinitely to allow secure investments in the mobile telecommunications industry, and that future spectrum



prices are based on the market value, or if the information is unavailable, retention of the current spectrum price.

- II. *Making available more radio spectrum suitable for next generation mobile services. Ofcom has proposed the release of the so-called 3G expansion band at 2.6GHz. The Government will support proposals from Ofcom to play a key role in a pan-European alignment of the Digital Dividend Review Spectrum (the so-called Channel 61-69 band), being released by the progressive switchover from analogue to digital broadcasting, pioneered by the UK. This will free up radio spectrum particularly valuable for next generation mobile services.*

**Orange response:** Orange believes that existing mobile network operators need a balance of both high frequencies and low frequencies spectrum and that the spectrum at 2.6 GHz and 800 MHz may go some way to equalizing both low and high frequency spectrum holdings for existing mobile operators. However, whilst in technical terms, some of the propagation characteristics of the 800 MHz spectrum can be seen as complimentary to the 900 MHz spectrum, there remains significant competition and commercial issues that must be taken into consideration as network equipment, handsets and spectrum will not be available until 2012/ 3 at the earliest, with mass consumer deployment by 2014/ 5.

- III. *Greater investment certainty for existing 3G operators: The Government wishes to encourage the maximum commercially-sensible investment in network capacity and coverage. But the further into a fixed term licence one goes the greater the disincentive to invest. We want to resolve this issue now as part of the structured framework. As part of the structured trading framework existing time-limited licences could be made indefinite and subject instead to AIP beyond the end of the current term. If this were achieved the Government would look to ensure that the AIP then set reflected the spectrum's full economic value and hence would capture over time the return equivalent to the proceeds that would have been realised in the market from an auction for a licence of the same period.*

**Orange response:** Orange would encourage BERR to ensure that UMTS licences are extended indefinitely to allow secure investments in the mobile telecommunications industry, and that future spectrum prices are based on the market value, or if the information is unavailable, retention of the current spectrum price.

- IV. *Greater network sharing: the Government and Ofcom will consider further network sharing, spectrum or carrier-sharing proposals from the operators, particularly where these can lead to greater coverage and are part of the mobile operator's contribution to a broadband universal service commitment.*

**Orange response:** For the white zones, and given the significant size of the investment, Orange would either build on our own or find the right sharing model. Orange believes that the

mobile operators should be allowed the commercial freedom to find solutions and that, providing there are no distortions to competition, Government or regulatory intervention prescribing a specific network sharing model is not required.

- V. *Commitments by the mobile operators to push out the coverage of mobile broadband eventually to replicate 2G coverage and mark their significant contribution to the broadband universal service commitment.*

**Orange response:** Orange will commit to delivery of a universal broadband service to 98.5% of the population by 2012 up to 2Mbps, assuming appropriate conditions. Although mobile broadband would be accessible beyond this area, it would be at lower data rates than 2Mbps. Orange, drawing on our France Telecom Group expertise in operating both fixed, mobile and satellite networks, believes that neither fixed nor mobile networks will be cost efficient to provide universal broadband in the areas required to bridge the 98.5% to 100% population coverage gap. Orange recommends considering satellite technologies for this last 1.5% population coverage, providing the trade-offs of uplink capabilities and costs are understood.

#### ACTION 7

*We will consider at what point and at what cost the standard offer provided by the Digital Television Switchover Help Scheme could have a return path capability, and we will ensure that such capability is available as an option*

**Orange response:** As discussed above, Orange believes that any funding regime to cover the mandating of “return path” functionality under the Digital Switchover Help Scheme should be available on fair and transparent terms to all market participants engaged in fomenting NGA.

#### ACTION 8

*We will examine how the marketing and communications activity around Digital Switchover could be enhanced to use the region-by-region programme of publicly funded information and advice on one form of digital transition to provide impartial information on wider opportunities of digital beyond digital broadcast television.*

**Orange response:** Any programme to support digital awareness should be explicitly neutral as to platform.

#### ACTION 9

*We will take action to support DAB digital radio.*

**Orange response:** Not relevant to Orange.

## ACTION 10

*In the final report we will examine measures needed to address the challenges for digital content in more detail, including opportunities for providing further support to foster UK creative ambition and alternative funding mechanisms to advertising revenues.*

**Orange response:** Any measures to help develop digital content should only be considered when the content is available to all platform operators and distributors and fair terms. The subsidiary point in Action 10, on the need to explore alternative mechanisms to advertising revenues, will be dealt with in by the market in the context of the introduction of new distribution platforms and funding models for content.

## ACTION 11

*By the time the final Digital Britain Report is published the Government will have explored with interested parties the potential for a Rights Agency to bring industry together to agree how to provide incentives for legal use of copyright material; work together to prevent unlawful use by consumers which infringes civil copyright law; and enable technical copyright-support solutions that work for both consumers and content creators. The Government also welcomes other suggestions on how these objectives should be achieved.*

**Orange response:** Orange supports the proposal for exploring the creation of a Rights Agency further but has some significant concerns that must be considered. In particular, it would be a concern if the Rights Agency were given a role in developing new business models and education campaigns which should be agreed by bi-lateral commercial agreements between stakeholders. Orange is also very concerned that any future discussion about the prevention of civil copyright infringement will bring back to the table the graduated response advocated by rights-holders which would be counter-productive, damaging to the Digital Britain agenda and Orange continues its strong opposition to any such form of graduated response mechanism.

## ACTION 12

*Before the final Digital Britain Report is published we will explore with both distributors and rights-holders their willingness to fund, through a modest and proportionate contribution, such a new approach to civil enforcement of copyright (within the legal frameworks applying to electronic commerce, copyright, data protection and privacy) to facilitate and co-ordinate an industry response to this challenge. It will be important to ensure that this approach covers the need for innovative legitimate services to meet consumer demand, and education and information activity to educate consumers in fair and appropriate uses of copyrighted material as well as enforcement and prevention work.*

**Orange response:** Orange does not support the idea of funding the Rights Agency as this would effectively mean imposing an anti-piracy tax on ISPs (thereby increasing broadband

costs for all internet consumers regardless of whether or not they infringe), who do not benefit in anyway from copyright infringement. In addition, such a tax would destroy all incentives for rights-holders to innovate and would also prevent the development of ISPs' own content offerings.

### ACTION 13

*Our response to the consultation on peer-to-peer file sharing sets out our intention to legislate, requiring ISPs to notify alleged infringers of rights (subject to reasonable levels of proof from rights-holders) that their conduct is unlawful. We also intend to require ISPs to collect anonymised information on serious repeat infringers (derived from their notification activities), to be made available to rights-holders together with personal details on receipt of a court order. We intend to consult on this approach shortly, setting out our proposals in detail.*

**Orange response:** Orange supports the notification and anonymous data sharing proposals based on core principles such as full costs-recovery for ISPs, recognition that ISPs are protected by European law as innocent intermediaries, ISP retention of full ownership of their communications with their customers, indemnities for losses incurred by ISPs resulting from incorrect allegations of unlawful file sharing, no exemption for small ISPs, a carve out for mobile internet unless and until the Government undertakes a full costs-benefits analysis, and an acceptable process for the notification process including acceptable volumes and clear understanding of which content owners (who should be represented by recognised trade associations) are part of the scheme.

### ACTION 14

*To inform whether any change to the merger regime is yet desirable or necessary in relation to the local and regional media sector, the Government will invite the OFT, together with Ofcom and other interested parties, to undertake an exploratory review across the local and regional media sector and make appropriate recommendations.*

**Orange response:** Orange has no current view on the issue of local media ownership rules/restrictions but further comment may be provided following the assessment outlined in the Interim Report.

### ACTION 15

*The existing Terms of Trade between the independent producers and broadcasters have worked well. In light of new entrants to the market, new business models and new distribution channels, it makes sense to have a forward look at how the relationship between independent producers and those who commission their ideas could evolve.*

*This review will focus on the appropriate rights holding agreements and definitions required for a multi-platform digital future, on the overall health of the sector and on continuing to ensure that viewers, listeners and users get the best and most innovative content and programming.*

**Orange response:** Any change to the terms of trade between broadcasters and independent producers should lead to a more flexible market for the distribution of independent rights in the UK rather than serve to further protect the position of incumbent broadcasters.

#### ACTION 16

*In the final Digital Britain Report, we will establish whether a long-term and sustainable second public service organisation providing competition for quality to the BBC can be defined and designed, drawing in part on Channel 4's assets and a re-cast remit. It would be a body with public service at its heart, but one which is able to develop flexible and innovative partnerships with the wider private and public sector. While it makes sense to begin by looking at public sector bodies- Channel 4 and BBC Worldwide- the Government is currently evaluating a range of options and organisational solutions for achieving such an outcome.*

**Orange response:** In reference to the possible creation of a second pure PSB, involving a re-positioning of Channel 4, we would be concerned about any solution that reduces competition among PSBs in the distribution of VOD content to platforms (mobile, broadcast or fixed line), and potential mergers should be viewed in part in this light.

#### ACTION 17

*We will develop plans for a digital Universal Service Commitment to be effective by 2012, delivered by a mixture of fixed and mobile, wired and wireless means. Subject to further study of the costs and benefits, we will set out our plans for the level of service which we believe should be universal. We anticipate this consideration will include options up to 2Mb/s.*

**Orange response:** We support the Government in this action. We have set out our views as to how we believe universal broadband should be provided by Orange, and the necessary conditions to be met, and welcome the opportunity to discuss the most appropriate operating model for such service.

#### ACTION 18

*We will develop detailed proposals for the design and operation of a new, more broadly-based scheme to fund the Universal Service Commitment for the fully digital age – including who should contribute and its governance and accountability structures.*

**Orange response:** We support the Government in this action. Orange believes that an appropriate next step would be to the Government led strategy group to discuss other potential funding and tax relief options and we welcome the opportunity to work with the Government led strategy group on developing detailed proposals.

#### ACTION 19

*We will encourage the development of public service champions of universal take-up. The Digital Inclusion Action Plan recommended the appointment of a Digital Inclusion Champion and expert taskforce to drive the Government's work on digital inclusion. Clearly, the work of the Champion will be important in encouraging take-up.*

**Orange response:** Orange supports the Government's concept of a Digital Champion and thinks it should stimulate uptake of services more broadly.

#### ACTION 20

*We are inviting the BBC to play a leading role, just as it has in digital broadcast, through marketing, cross-promotion and provision of content to drive interest in taking up broadband. With other public service organisations, the BBC can drive the development of platforms with open standards available to all content providers and device manufacturers alike.*

**Orange response:** The BBC's supposed leading role in promoting broadband take-up must be carefully considered in light of NGA and USO issues, and any use of the BBC or its funding as an instrument for the promotion of NGA must not advantage any single player; further, operators should be able to share benefits and/or costs of network upgrade and incremental, on-going burdens associated with access by the BBC (and other content distributors) to relevant networks.

#### ACTION 21

*A Public Service Delivery plan: we commit to ensure that public services online are designed for ease of use by the widest range of citizens, taking advantage of the widespread uptake of broadband to offer an improved customer experience and encourage the shift to online channels in delivery and service support.*

**Orange response:** Orange supports this initiative, and welcomes moves to develop affordable set top boxes subject to issues over content availability and distribution being resolved.

#### ACTION 22

*The current statutory and specific remit on Media Literacy is contained within s.11 of the Communications Act 2003. As this report makes clear, since 2003 there have been significant market changes in the availability of digital technologies and how they are used. We will ask Ofcom to make an assessment of its current responsibilities in relation to media literacy and, working with the BBC and others, to recommend a new definition and ambition for a National Media Literacy Plan.*

**Orange response:** Orange supports this initiative.

## **APPENDIX 2: NGA and WHOLESale - PROPOSALS AND RECOMMENDATIONS IN DETAIL**

***Orange would be willing to invest in NGA if the right market and regulatory conditions exist***

### *Key areas for action – commercial – development of hybrid investment model*

The key features of the hybrid sub-loop investment model – originally suggested by BSKyB and commented on by Ofcom in their 3 March paper - would be these:

- At regular intervals, Openreach would consult CPs on its roll-out programme. Orange recommends a rolling quarterly process. At each stage, interested CPs would commit to participate in the roll-out at particular cabinets and to contribute a share of the set-up costs.
- Openreach would proceed with its upgrade plan. The cabinet would be appropriately dimensioned to support the DSLAM equipment of the number of CPs interested in that particular cabinet, providing they had declared interest in a timely fashion. Openreach would ensure that enough space, power and cooling is installed to meet their requirements. CP electronics would be installed at the same time as Openreach's.
- CPs would rent space from Openreach on an ongoing basis and CPs would be able to access their own electronics.
- Openreach would own the fibre link back to the exchange, the cabinet and everything in it except for other CPs' electronics. On an on-going basis, Openreach would provide space in the cabinet, access to the power supply, and backhaul to the exchange;
- Openreach would provide a suite of backhaul products from the cabinet to the exchange. There should be opportunity for backhaul sharing and partitioning between CPs as well as dark fibre.
- CPs would pay a contribution to the set up costs and ongoing rental, on a cost-orientated basis. The set-up contribution would significantly reduce Openreach's upfront investment.
- All CPs would have equal opportunity to participate in the hybrid model roll-out. Those who choose not to do so would need to rely on downstream wholesale services – from BT or another CP.
- There is significantly greater risk in BT's initial investment in FTTC than for a CP who adopts a wait-and-see approach, and chooses to place its equipment in BT's cabinets only once the investment has been proven successful. To do so would not be fair on BT. For this reason, we suggest that CPs should have a one-off opportunity to participate on these terms. If they decided not to, a subsequent move to placing their own electronics in the cabinet would be significantly more expensive. There might, at this later time, be no space in existing cabinets and so a subsequent investment would have to reflect the costs of a further cabinet needing to be built just for that CP. Alternatively, the current SLU products would still be available.
- Orange believes that it is appropriate for Openreach and CPs to discuss the proposal under the auspices of an independent body, chosen by the Government and / or Ofcom, and attempt to

agree a commercial approach. However, regulatory intervention may prove to be necessary and particularly in relation to price.

The key advantages of the hybrid model are:

- Commercial: it de-risks NGA roll-out for all players concerned including BT by sharing the capital set-up costs. It thus maximises commercial efficiency and overcomes one of the key commercial inhibitors for multiple NGA investment. Ofcom recognises this benefit in their 3 March 2009 statement on NGA.
- Operational: it maximises process efficiency by ensuring a single shared roll-out where all players participate on the same basis. Again, this is recognised by Ofcom.
- Regulatory: it goes some way to addressing concerns about regulatory fairness by ensuring that all players have the opportunity to roll-out networks at the same time.

Orange agrees that industry negotiation has an important part to play in the hybrid model but recommends that discussions be facilitated by the OTA. In addition, there should also be an independent review to ascertain whether this approach is viable from a practical and economic perspective.

#### Key areas for action – commercial - price regulation of sub-loop

This position has now changed from one where there was little interest in SLU; it is now essential if NGA competition is to flourish that SLU prices should be effectively regulated, on a cost oriented basis. This is the accepted and understood methodology for price regulation at the deepest level of effective and sustainable infrastructure competition. It is designed to ensure that the regulated player recovers the amounts it could expect in a competitive market. In theory this approach is already required under today's regulation. In practice sub-loop pricing has never been investigated thoroughly.

In addition, given the risk that BT may decide for tactical reasons (that is, to discourage competitive investment in NGA) to reduce the price of GEA, it may be necessary to introduce an *ex ante* price floor for GEA (i.e. to ensure that sub-loop providers enjoy lower costs, creating a margin between sub-loop and BT's downstream wholesale fibre-based broadband product (GEA)). This rule should be structured to ensure that sub-loop roll-out is protected in areas in which it is viable. Such an *ex ante* rule is justified given the current and historic competition law enforcement problems. It is probably appropriate to consider whether a similar analysis to that conducted by Ofcom in relation to the wholesale local access market (where it divided up the country into three geographic markets – called 1, 2 and 3) and imposed different regulatory obligations within each. Within Market 3 (where BT is subject to competition from investors in LLU), there was an agreement with BT not to reduce the price of IPStream until certain criteria had been met. In the NGA context, a comparable approach would be justified in geographic area (i) as identified above<sup>15</sup>.

It will also be important to ensure that BT's WACC actually reflects the risk of their investment. BT has already argued that investment in infrastructure to support sub-loop unbundling would be risky. This is incorrect in our hybrid model as Orange would expect that this investment would be demand driven and risks would be shared. It would be inappropriate for communications providers participating in the hybrid model, contributing to its costs and sharing its risks, also to bear a further

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<sup>15</sup> Another option would be to investigate whether the non-eviction approach used by ARCEP in France could be effective in the UK

share of any risk assumed by BT. This would result in a double payment for those providers. This is consistent with the principle of equivalence of input (see below).

Orange therefore recommends that Ofcom immediately reviews BT's sub-loop pricing with a particular focus on customer connection charges.

#### Key areas for action – product development and processes

Key areas of concern in relation to sub-loop products and processes include:

- There is no ability to participate in a single joint roll-out which would significantly simplify processes and speed up time to market. Today, processes are excessively complicated by the requirement that any potential sub-loop investor must install its own cabinet infrastructure;
- No clear migration path from current wholesale broadband or unbundled products to SLU exists, leaving a risk of poor customer experience, excessive migration costs and devaluing LLU assets. Crucially, the absence of clearly-defined migration paths will lead to bad customer experience;
- Limited automation of processes;
- Absence of comprehensive product documentation;
- Absence of strong service level commitments;
- The need for creation of and reporting on KPI metrics;
- Development of cabinet collocation products;
- Development of backhaul products.

Orange therefore recommends that the OTA should be empowered and resourced to sponsor the same, large scale re-engineering of products and process as was begun for LLU in 2004.

#### Key areas for action – regulatory and tax

The hybrid investment model proposed, together with the price and process improvements identified above, will solve many of the barriers to successful NGA roll-out by multiple players. However, there are other regulatory issues which will need attention if competitive NGA roll-out is to be successful.

First, more detailed consideration is needed to ensure a level playing field. The principle of 'equivalence' has underpinned much of the regulatory success which supports today's broadband. Indeed, equivalence is a guiding principle around the creation of Openreach. Under this principle, BT's downstream operations are required by regulation to use the same wholesale products on the same terms as competitors.

Orange has concerns about how this principle will apply to NGA. It now seems likely that BT's NGA roll-out will not be required to use the sub-loop on an equivalence of inputs basis. This is a fundamental revision of the approach set out in the Ofcom Strategic Review of Telecoms and will be a significant disincentive to NGA investment at the sub-loop. Equivalence of inputs must be mandated for the proposed hybrid model (so that Orange uses exactly the same products and processes as BT uses for its NGA). In Orange's vision all communications providers have the option to participate in the hybrid model on the same terms, which is consistent with the concept of



equivalence of inputs. Orange will consider this further before responding to Ofcom's consultation of 3 March 2009 on revisions to BT's Enterprise Act Undertakings.

Tax reform is also needed. The cumulo rates regime is still a potential barrier to investment. Orange welcomes the further examination of the cumulo rates regime prompted by the Caio review and endorsed by Digital Britain. However, cumulo rates still represent a significant bar to investment in sub-loop by alternative providers. The regime is potentially unclear as it applies to sub-loops and, crucially, the investment needed to support them such as cabinets and backhaul duct and fibre. Orange therefore recommends a programme of active reform of this regime – rather than the useful but limited clarification which has so far been forthcoming. Beyond this, serious consideration should be given to a broader programme of tax reform allowing longer capital write-down periods under relevant accounting rules. This would enable investors to recover their capital expenditure over a more realistic period.

#### *Mitigating the risks of later FTTH investments to sub-loop assets*

A potential bar to competitive investment in NGA is that, once BT has implemented its VDSL network, it will shortly upgrade it to FTTH. This would create difficulties for any NGA investment in sub-loop by Orange and is a serious investment disincentive.

Orange and other LLU investors are faced with this same issue today in relation to LLU investments. It is a serious problem which will inevitably impact on the decision-making process of the most likely SLU investors.

In order to prevent the recurrence of the same problems as have occurred with LLU, an upfront regime should be put in place to creating reasonable and fair regime where Orange invests in new infrastructure and BT later puts in place FTTH. This should include clear, lengthy notice periods for any move to FTTH networks; a framework for this decision to be taken including input from sub-loop investors; an appropriate regime for dealing with SLU assets; and guaranteed migration paths.

#### *Importance of content*

In order for ISPs to be able to afford the level of investment required for NGA, it is important for those ISPs to be able to attract sufficient ARPU from its customers within those area where the ISP seeks to invest. One of the key drivers of ARPU is availability of premium and basic content on fair and reasonable terms. This will be a pre-requisite if Orange is to consider such an investment. Oranges view's on access to content are set out in detail in Chapter 4.' of this response.

***In areas where competitive investment in NGA infrastructure is not viable action will be needed to improve the competitive position for wholesale NGA-based bitstream.***

#### *Action required in areas where competitive investment is not viable - price regulation of wholesale bitstream*

This section sets out the detailed measures required to ensure an appropriate pricing regime in areas where competitive sub-loop investment is not viable.

Orange would also be concerned that recent statements from Ofcom have suggested that BT would be able to recover a higher weighted average cost of capital (WACC) for this investment (which is the basis upon which returns for regulated wholesale prices are set) which in itself is likely to lead to significantly higher wholesale (and therefore retail) pricing than current wholesale broadband or unbundled products despite it being unclear what additional risk actually exists for an organisation such as Openreach in the absence of alternative competitive investments in NGA. If competitive sub-loop has failed, it is probable that monopoly conditions in today's local access network will at least be duplicated in an NGA world. At worst, the position will be exacerbated – because existing LLU roll-outs will be undermined. If correct, this means that BT's NGA network will actually be less risky than today's.

Orange has no objection to a fair return on investment but is concerned that the proposals for an increased WACC (in a scenario where competitive sub-loop has failed) do not truly reflect the limited risk of this particular planned investment by Openreach<sup>16</sup>. Openreach is a monopoly provider which does not suffer the same competitive pressures as other players.

BT has indicated that it expects to recover its NGA set-up costs over a very short period of time (most likely by the introduction of a connection / migration fee). If competitive sub-loop investment fails, this will also lead to higher wholesale (and therefore retail) pricing than is currently the case for either LLU or wholesale broadband. Furthermore, it is likely to lead to massive over-recovery of BT's NGA investment given its likely amortisation rules – as has been the case with its copper network, which may now have been written off (for accountancy purposes) multiple times over the past sixty years. These cost recovery periods will lead to higher wholesale pricing and ultimately higher retail prices.

There is a significant risk of margin squeeze between wholesale and retail prices because of both the lack of regulated wholesale pricing and comments from BT that the 'market' will set retail pricing. This is particularly concerning given Ofcom's failure to deal with the margin squeeze problems identified by Freeserve in its 2002 complaint (which still remains unresolved). The UK presents particular problems in this regard and Orange legitimately feels that in the UK context, where Ofcom is both the regulator and the competition authority, an ex ante approach is required<sup>17</sup>.

If competitive sub-loop has failed wholesale fibre broadband should be price regulated. This is the accepted and understood approach to ensure effective and sustainable competition at the deepest level of infrastructure. It is designed to ensure that the regulated player recovers the amounts it could expect in a competitive market. In addition, it is likely be necessary to ensure an ex ante minimum margin exists between wholesale and BT's retail broadband to ensure no margin squeeze exists. Such an ex ante rule is justified given the current and historic competition law enforcement problems in the UK.

If competitive sub-loop has failed it will also be important to ensure that BT's WACC actually reflects the risk of their investment – if sub-loop unbundling is not viable and cable is not offering a wholesale product, an organisation such as Openreach, as an effective monopoly provider is pretty much guaranteed over the life of the investment to have a significantly higher share of both the wholesale local access and wholesale broadband access markets. Given this level of market share, there is no reason to see these investments as riskier than today's network. Indeed, if competitive LLU roll-outs are undermined, NGA may even prove less risky for Openreach than today's environment. It is of

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<sup>16</sup> It is important to note a distinction between arguments on payback in relation to fixed NGA rollout by an SMP player within its existing footprint (on the one hand) and those which are pertinent to roll-out by a non-SMP player to provide a universal service type offering using wireless technologies (on the other). The two cases are clearly quite different with different risk and market power profiles.

<sup>17</sup> Another option would be to investigate whether the non-eviction approach used by ARCEP in France could be effective in the UK

course appropriate for BT to receive a fair return on its investment; but that return must reflect the real risk involved.

Finally, BT must recover the set-up costs of its NGA roll-out over the economic lifetime of the investment (which would – as has been the case with copper – be over many decades).

#### Action required in areas where competitive investment is not viable - Naked Broadband

As set out in the main body of our response, no 'Naked VDSL' variant of GEA currently exists, meaning that ISPs will be forced to purchase a 'baseband voice' product from Openreach (currently limited to either MPF or WLR) in addition to GEA even if they have no plans to offer a PSTN-based voice product.

In BT's proposed VDSL design, broadband services are delivered using fibre to the cabinet and copper over the sub-loop (D-side) copper. Voice, as part of BT's compulsory bundle, will be delivered over both E-side and D-side copper. In other words, BT is tying the broadband service to a completely unrelated piece of network (the E-side copper). This is obviously inherently inefficient when, for many providers (and their retail consumers), it is unnecessary. In addition, it denies operators such as Orange the opportunity to launch innovative products and services if competitive sub-loop investment has failed. It also raises significant competition law concerns.

In Orange's view it is clear that BT should be compelled to launch a 'Naked' version of VDSL that does not require use of a baseband voice product. BT should not be allowed to recover the opportunity costs for lack of usage of its PSTN network and, as this product should be designed from the inception of the VDSL network, the cost of the Naked variant should be no higher than the cost of the standard GEA product plus the 'cost of copper' (reduced given only the copper between the sub-loop and the customer premises will be used).

#### Action required in areas where competitive investment is not viable - Equivalence of input

The principle of 'equivalence' has underpinned much of the regulatory success which supports today's broadband. Indeed, equivalence is a guiding principle around the creation of Openreach. Under this principle, BT's downstream operations are required by regulation to use the same wholesale products on the same terms as competitors. Orange has concerns about how this principle will apply to NGA if competitive sub-loop investment has failed. One important implication of this is that BT's competitors may not be able to replicate fully the BT Retail product set if competitive sub-loop has failed. It is essential that players such as Orange have access to facilities like multicast which will be necessary to ensure downstream competition. The principle of equivalence has sat behind many of the regulatory successes since the creation of Ofcom; it would therefore be a serious concern were this principle now to be neglected.

As set out in the main body of our response, Orange is encouraged by Ofcom's statements on 3 March 2009 that equivalence will apply to BT's NGA-based bitstream. However, Orange remains concerned that the principle may not be enforced in relation to all necessary inputs, such as multicast facilities. Orange therefore recommends a careful programme to ensure that equivalence of inputs applies to all aspects of BT's NGA-based wholesale bitstream in the event sub-loop competition fails.

#### Action required in areas where competitive investment is not viable - operational issues

This section describes in more detail the operational issues which will need action in areas where competitive NGA investment is not viable,



No clear migration path from current wholesale broadband or unbundled products exists, leaving a risk of poor customer experience, excessive migration costs and fair dealing with LLU assets. Crucially, the absence of clearly-defined migration paths will lead to bad customer experience.

BT wishes to retain control over the CPE for its NGA services, possibly with the intention of guaranteeing some contractual and product / service relationship with the end customer. While it is understandable that, in a trial phase, BT may want to have some end-to-end control of the service to make sure that it works properly, once products are fully launched ISPs need to be able to provide their own CPE so that they can manage the customer's service properly.

BT's proposal to control CPE on NGA services is clearly unacceptable in terms of leveraging its dominance as a wholesale supplier into the retail market. Orange submits that this issue should be investigated by Ofcom using its statutory competition law powers.

In addition, it would be valuable to empower the Telecoms Adjudicator to oversee clear and cost-effective migration paths. This will be essential to ensure a positive customer experience.

### *Risk of the end of local loop unbundling*

Orange and other ISPs have invested hundreds of millions of pounds in enabling BT local exchanges to provide competitive broadband services over unbundled local loops. If competitive sub-loop has failed, the launch of NGA services by BT risks undermining that investment. Customers who experience the speeds available on NGA broadband may actively migrate across from exchange-based broadband and would be reluctant to move back to standard DSL (mirroring the asymmetric substitutability between broadband and narrowband). This problem will be exacerbated if BT closes local exchanges or removes the existing copper network between the exchange and the street cabinet. BT has every incentive to do this as soon as it is practicable, in order to save the costs of running multiple parallel networks. All this taken together would mean the end of local loop unbundling in those exchanges.

There are four specific risks which flow from this. First, LLU operators such as Orange may be forced to take large write-downs on the capital they have invested in LLU. Secondly, competition will be undermined unless those operators have sufficient notice to re-engineer their networks for customer migrations. Thirdly, customers may suffer if the new services on offer are not fit for purpose. Fourthly, BT might force ISPs to move their customer bases onto wholesale fibre products like NGA on poor commercial terms.

Orange recommends the following actions to minimise the serious risks associated with possible exchanges closures and the removal of today's copper networks if competitive sub-loop investment has failed:

- first, local exchanges should not be closed except with the consent of the LLU operators at that exchange.
- Secondly, there should be an adequate notice period for the closure – likely to be at least five years, consistent with international best practice – in order to allow the LLU operators time to design and implement new products and complete the customer migration process.
- Finally, exchange closure should be subject to confirmation that there is a replacement NGA-based wholesale broadband service which is fit for purpose and ensures at least replicability of existing services – including an 'anchor' product that replicates current-generation broadband products, appropriately throttled, at current wholesale pricing rates (i.e. SMPF).



### ***Proposals for wholesale bitstream outside of LLU areas***

Dedicated regulatory action is required in this area as follows.

First, a total lack of price regulation has led to excessive pricing. Wholesale access (for both voice and broadband) outside of LLU areas currently costs Orange approximately £16 per user per month. This compares with the price of approximately £6.80 per month within LLU areas. Once again, these higher wholesale prices lead to increased prices for end-users or problems of margin squeeze for those ISPs (such as BT) which operate national pricing.

Secondly, there is an ongoing margin squeeze problem which makes profitability for BT's competitors impossible (although BT, as a vertically-integrated company is able to make sufficient profit through subsidisation of its retail losses by excessive profits gained at the wholesale end). This means that Orange currently suffers from a negative production margin in those areas. This issue has been subject to an Ofcom investigation which remains unresolved despite having been opened in March 2002.

Thirdly, Naked DSL is not available outside of LLU areas despite many requests from Orange to both Openreach and BT Wholesale. This denies communications providers such as Orange the opportunity to develop new products and services that could revolutionise the competitive landscape outside of LLU areas – introducing true competition with the promise of significant reductions in the amount customers must pay for converged communications services.

Finally, there is little (if any) service differentiation as everything is based on the same vanilla wholesale products. This has led to lower speeds and less innovation than exists within areas where BT has been subject to competition from LLU and / or cable (examples of which include the lack of ADSL 2+, lack of effective end user speed control, and low priority for rolling out BT's 21CN).

## Glossary and definitions

ADSL	Asymmetric Digital Subscriber Line
AIP	Administered Incentive Pricing
ARPU	Average Revenue per User
CPE	Customer Premises Equipment
DRM	Digital Rights Management
DSL	Digital Subscriber Line
DSO	Digital Switchover
DTT	Digital Terrestrial Television
ETNO	European Telecoms Network Operators Association
FTA	Free to Air
FTG	France Telecom Group
FTTC	Fibre To The Cabinet
FTTH	Fibre To The Home
GEA	Generic Ethernet Access
GSMA	GSM Association
HP	Hewlett Packard
HSDPA	High Speed Data Packet Access
IPTV	Internet Protocol Television
ISP	Internet Service Provider
LLU	Local Loop Unbundling
LRIC	Long Range Incremental Cost
LTE	Long Term Evolution
MPF	Mobile Payments Forum / Metallic Path Facility
MVNO	Mobile Virtual Network Operator
NGA	Next Generation Access
P2P	Peer to Peer
PMSE	Programme Makers and Special Effects
PSB	Public Service Broadcaster
SMP	Significant Market Power
STB	Set Top Boxes
UMTS	Universal Mobile Telecommunication System
USO	Universal Service Obligation
VDSL	Very high bit-rate Digital Line Subscriber
VOD	Video on Demand
WACC	Weighted Average Cost of Capital
WLR	Wholesale Line Rental
WRC	World Radio Conference

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