

About Telefonica

O2 is the UK commercial brand of Telefonica and a leading digital communications company with over 23 million customers in the UK. The company has over 450 stores across the UK; provides over 10,000 free wifi hotspots through O2 Wifi, which has over 10 million registered users, owns half of Tesco Mobile; and sponsors The O2, O2 Academy venues and the England Rugby Team. Telefonica worldwide operates in 24 countries and has over 315 million customers.

Commentary

Telefonica welcomes the government's Digital Communications Infrastructure Strategy Consultation Document. We are encouraged that the Government "is committed to making the UK the best connected economy in the world" and recognises that "if the UK is to remain a leading digital economy it needs the right digital communications infrastructure in place to meet user demand, support economic growth, build a digital society and allow new technology to flourish." Telefonica shares the Government's view that an effective digital communications infrastructure is vital to the UK's future economic and social success. We welcome the Government's ambition to deliver long term planning and decision making in the development of the country's digital communications infrastructure and its decision to create the Digital Taskforce "to build on the UK's current position in advancing its digital economy, including ensuring our infrastructure is world leading."

Decisions on the development of the UK's digital communications infrastructure need to be driven by a recognition of the importance of *mobile* communications. As the Consultation Document notes, people "increasingly expect to be connected anywhere at any time and to access data and content from multiple devices."

The UK has one of the most competitive, dynamic and cost-effective mobile sectors of the major economies, delivering low and consistently falling prices and high levels of customer satisfaction. Ofcom has estimated that prices in the US are roughly four times higher than the UK, for example, and also highlighted that the average cost per minute of a call in the UK is 24% higher on fixed-line than it is on mobile. 15% of people in the UK now live in mobile-only households.

Telefonica will shortly produce a report – ‘A Connected Society: The Role of Mobile’ – based on interviews with 2,000 people to gain an informed snapshot of mobile phone usage across the UK. We found that while the primary use of a mobile phone is to phone (97%) or text (96%), 49% of people say they have either bought or researched products online on their phone, 28% use their mobile device to get in touch with their local authority, while 62% of smartphone owners use their device for ‘general internet browsing, searching for information’.

Businesses – especially younger businesses and the mobile networks themselves – have pioneered the use of mobile and social media to connect with consumers. These channels provide the opportunity for unmediated access between consumers and businesses – something which has changed the nature of this communication. 33% of business decision makers in our research say that mobile technology has become ‘essential’ to the way they work.

In its 2013 report, ‘Smarter Working Britain’, the Centre for Economics and Business Research (CEBR) estimated the impact on productivity from maximising mobile connectivity to be an extra 178 hours worked per worker per year (or GVA per worker of £1,895). In total, the CEBR concluded that the annual economic benefit to the UK from effective and efficient use of mobile would be £30bn.

The growth in mobile in recent years – data traffic growth on the Telefonica network has gone up by 60% in the last year alone – will continue to rise steeply as consumer behaviour evolves and their engagement with mobile technology deepens. The economic and social benefits that this growth will bring to the UK reinforce the importance of the infrastructure that supports and enables mobile communications. In many respects the UK’s digital network has become as central as other types of networks, such as the electricity grid, the postal system or rail and road infrastructure.

Telefonica is undertaking a major programme of investment to meet current and future demands on its network. These include:

- Our £3bn investment programme to deliver 2G, 3G and 4G to 98% of the population by 2017.
- Our 4G roll-out programme, which is one of the most rapid undertaken anywhere in the world and in its first year has already reached 45% of the population.
- O2 wifi – our wifi service, free to O2 and non-O2 customers, provides 10,000 hotspots across the UK and is used by 10 million people.
- Our infrastructure sharing agreement with Vodafone, which Ofcom estimates will allow both operators to extend coverage to 8% more of the UK landmass.

- TU Go – our free app that allows customers to connect over wifi not just anywhere in the UK, but anywhere in the world with call, texts, and voicemail at the same rates as in the UK.

We are committed to doing all we reasonably can to maximise coverage and the strength of our networks. There are a number of areas where policy makers can support our efforts (e.g. planning and Electronic Communications Code reform, a decision-making process among planning authorities that is more accepting of the need for telecommunications infrastructure to provide the service they want to receive, backhaul costs, site availability, an effective Mobile Infrastructure Programme). A dialogue between the mobile industry and government is needed to discuss how our shared objective of high quality coverage can be delivered to the 1-2% of the population in remote areas where there is currently no business case for investment.

In order to maximise infrastructure investment by the mobile sector, the regulatory system needs to follow three broad principles: incentivise investment by allowing a reasonable rate of return; encourage innovation; and make evidence-based decision within a stable environment.

Consultation Questions

We have confined our answers to those questions that are of greatest relevance to Telefonica and to the ones where we can offer the greatest insights and expertise.

Q2: What potential opportunities are there for Government to leverage its combined buying power to support policy objectives?

The government needs to follow clear procurement rules that enable solutions based on open international standards. Length of contracts should allow for a return on investment and reasonable risk; this may require management contracts in some places, rather than fully itemised shopping lists. Maintaining a technology-neutral stance can be challenging; it is preferable to keep contracts objectives-driven contracts. The gradual shift towards COTS (commercial off the shelf) solutions needs to be maintained in the UK, but overall we consider good procurement progress has been made in recent years. The big private communications networks in health, education (Janet), Network Rail, emergency services, and perhaps others which are government-funded should be kept under a digital economy review for capacity, capability and cost analysis. A bigger shift towards government encouraged e-Commerce should be developed, with targets set for online government procurement by 2018. Finally, the Government should be encouraging inclusive digital economy engagement by supporting digital education and skills.

Q4: Is an ongoing disparity of provision of broadband services inevitable? If so should this be addressed and how might this be done most effectively?

We believe that the improving coverage and quality of mobile broadband will increasingly minimise current disparities, particularly as mobile broadband is much easier to install in multiple locations. By 2017 Telefonica will provide 2G, 3G and 4G indoor coverage to 98% of the population.

Q6: Which countries should be our benchmarks on communications infrastructure to ensure that businesses remain in the UK and continue to invest?

We consider South Korea to be a good benchmark. It has achieved 99% LTE (Long term Evolution) coverage, speed of 75Mbps at minimum and greater penetration through a shift in infrastructure to the use of more small cells. South Korea has already rolled out LTE and a further enhancement of 4G, allowing speeds of up to 300Mbps. This has been possible because South Korea has prioritised enhancements in mobile infrastructure since the mid-1990s through investment, privatisation and de-regulation. Santander in Spain provides a good smaller city-based example, where Telefonica's major programme of smart metering has enabled digital solutions to waste management, water usage, soil moisture, traffic congestion and weather conditions.

Q7: What metrics do you think should or will become relevant in comparing network performance in different countries? What metrics should most appropriately be used as the basis to set objectives for government policy?

We believe the Government should consider four metrics: ability to *consistently* maintain a large number of active devices of varying types and demands; connectivity capacity; ability to tolerate large variances in demand; and speed (e.g. to support high quality video).

Q10: Are there technologies not identified here that you think will have a major impact on the performance of existing infrastructure or the deployment of additional infrastructure in the next 10-15 years?

First, Wimax, which provides wireless internet coverage over large distances. It is useful for continuous coverage in cities and for 'last mile' access in otherwise inaccessible rural areas.

Second, mesh networks which extend the capability of existing network by using other network users' devices as beacons for network access.

Q12: How likely is any unforeseen disruption to this scenario and what area might it occur?

One important question is whether all devices will be compatible and whether different brands in the market place will work together to ensure this is the case. Increased connectivity between all devices is key and demand for connectivity may encourage competing brands to ensure compatibility between their devices.

Q15: Are there technologies not identified here that you think will have a major impact on the performance of existing infrastructure or the deployment of additional infrastructure in the next 10-15 years?

See answer to Q10.

Q17: How likely is any unforeseen disruption to this scenario and what area might it occur?

See answer to Q12.

Q20: Are there technologies not identified here that you think will have a major impact on the performance of existing infrastructure or the deployment of additional infrastructure in the next 10-15 years?

See answer to Q10.

Q22: How likely is any unforeseen disruption to this scenario and what area might it occur?

See answer to Q12.

Q23: Are there factors, for example technical or unrelated to the regulatory framework, that could create bottlenecks and delay future infrastructure deployment in the UK in this

timeframe, that would result in demand not being met or the UK not being seen as a leading digital nation?

It is important that interdependent business sectors keep up with one another in terms of technological advances. Also, the regulatory system needs to ensure that the necessary private sector investment in infrastructure improvements is encouraged; and the Government needs to constructively engage with the industry to discuss how best a high quality digital infrastructure can be delivered to those remote areas of the country where there is no sustainable business case for investment. Planning authorities need to be supportive in giving their permission, where required, for infrastructure, while economies of scale could be achieved by effective collaboration between the telecommunications sector and other major infrastructure projects (e.g. energy, water, electricity, roads etc). Finally, if the UK is to be a leading digital nation in the future spectrum needs to be made available to operators on a timely basis and at a cost-effective price.

Q24: Do you expect commercial providers to deliver future infrastructure and meet demand on a purely commercial basis, or is some form of public intervention likely? If public intervention is likely how might that work with the commercial provision of infrastructure? What form might that intervention take?

Certain aspects of the UK's future digital economy will have to be joint efforts between government and the private sector (e.g. smart transport systems: cars, traffic lights, flow data systems communicating together, as M2M technology and the Internet of Things become more prevalent).

Q27: How might efficient investment in communications infrastructure be supported, for example by changes in the regulatory framework?

It is vital that both government policy and sectoral regulation provides the right climate to encourage telecoms operators to continue to invest. There should be a focus on certainty and stability (e.g. long spectrum licence durations, avoiding charges in the form of high annual licence fees), as we can only continue to invest where market conditions encourage us to do so and we can make a reasonable return.

Although we have seen the demand for our services rise by a factor of more than 30 in recent years, our revenues have generally been flat or decreased over the same period. Therefore, the regulatory authorities need to avoid diverting money away from investment programmes through poorly designed auctions and back-door taxation, for example. When assigning spectrum, national authorities should not design auctions to raise large amounts

of money to address budget deficits as this simply decreases the amount of private sector money available to invest in the network.

Compared to other spectrum users, mobile services generate the greatest economic value by some margin in Europe, yet revenue growth in the UK market has been challenging. Consumers want better, faster and more ubiquitous services and consume ever increasing amounts of data - all of which needs to be supported by investment in the network. It is, therefore, important to avoid short-term 'populist' initiatives and focus on strategic improvements that create the right incentives to invest and can facilitate real benefit.

A key area of network investment for Telefonica UK is mobile backhaul. Currently, BT and Virgin Media are our main mobile backhaul suppliers. Telefonica UK finds that the level of competition here is very low, principally because only BT can offer a fibre network whose reach is suitable for a nationwide mobile operation. Given the clear advantage regarding the geographical reach of their ducts, BT holds a unique position as a mobile backhaul services provider. Building a comparable network would entail a very high cost during a very long time, which limits the possibility of healthy competition. This unbalance has been compensated in other markets by regulating the use of the incumbent's ducts by other companies.

This lack of competition is an enduring issue for us and tighter control needs to be placed on BT's charges as they are currently disproportionate and act as a disincentive to network investment. We have previously flagged to Ofcom that effective "cost plus" based regulation of BT's fibre access is the only realistic option and that mobile backhaul should be treated as a separate market segment. We use fibre from other providers where available, but the reach of other providers is well below that of BT. Where sites have fibre deployed, BT have used their own wayleaves; this means that any competitive supply option needs a second wayleave with an existing landowner with little incentive to accept.

A significant change to the current market conditions can only happen with the introduction of sensibly regulated access to BT ducts. This would enable other providers to offer a much more comprehensive set of backhaul solutions and facilitate a generalisation of the use of dark fibre, including self-build, and, therefore, the availability to provide more bandwidth to our customers.

Regulatory initiatives such as the proposed increase in Annual licence fees (ALF) for spectrum and further reductions to mobile termination rates seriously affect revenue growth in the sector and threaten to undermine the business model for investment. Higher ALFs are likely to reduce profitability and put pressure on the level of investment that operators are able to make. A reduction in network investment is likely to affect coverage and capacity in rural areas disproportionately, because network usage is relatively

low in such areas. To the extent that mobile operators will not be able to make good the reduction in profitability brought about by higher ALFs through an increase in retail prices, they are likely to become less profitable. Since investment in mobile networks makes up a large proportion of mobile operators' capital expenditure, network coverage and capacity are likely to be adversely affected. This effect is contradictory to the Government's policy of increasing the provision of broadband and Ofcom's statutory duties to promote investment and encourage the availability and use of high speed data transfer services throughout the United Kingdom. Telefonica believes that a different approach is required which moves away from reflecting full market value in order to support greater investment.

Policies and regulations should be revised, considering the whole internet value chain, ensuring non-discrimination and a level-playing field amongst parties. Telecoms operators and the telecoms sector should not be treated in a different way to internet agents in areas like privacy, taxes, security or interoperability. To achieve this, a more forward-looking approach to regulation is needed in order to allow more room for market players' innovation.

The industry is asking for a symmetric application of relevant rules and principles, and asking that the application of competition law should take into account the entire value chain of the ICT industry.

Q28: Are any further regulatory measures necessary to incentivise the rollout of future mobile infrastructure in currently underserved areas?

We note that mobile coverage is identified by Ofcom as an important priority and correspondingly appears as a major work area in its Annual Plan. We also note that there is good 2G mobile coverage across the UK, reaching 99% of the population.

Telefonica continues to spend £1.5m every day improving our network. By 2017 we will have invested over £3bn in upgrading our network and delivering 2G, 3G and 4G coverage to 98% of the UK population. Our current network upgrade programme will see the improvement and replacement of our existing 2G and 3G equipment, with around 25% of masts due to be completed by the end of 2014.

In addition, our strengthened infrastructure sharing partnership with Vodafone, Project Beacon, will bring consumer benefit by enabling a faster rollout of 4G services than could be achieved independently and will improve coverage due to an increase in sites of around 40% for each operator.

We are also supporting better coverage through initiatives such as O2 Wifi which provides over 10,000 hotspots to our 10 million registered users, independent of any network subscription; and Tu Go, which allows our Post Pay customers to continue to make and receive calls and texts when then they have limited or no cellular coverage.

These initiatives along with our continued investment, demonstrate that our focus has been - and continues to be - on improving both coverage and quality to provide our customers with the best possible service.

Unless the business model fundamentally changes, we will focus our annual capital expenditure of around £500 million to those areas which contain the highest concentration of our customers. The business case for coverage in some rural areas simply does not work under current conditions. Increased focus on the real factors that affect network investment and the practical challenges involved is the only way to stimulate change and influence the level and quality of mobile coverage in such areas.

Building out networks in some parts of the country can be very challenging and will be dictated by population density, capital expenditure required to set-up the site, access to cost-effective backhaul, planning fees and restrictions, site access and rental, ongoing operational expenditure and local topography - all of which can be a challenge to obtain or overcome and can result in high and unsustainable costs.

Planning requirements, local opposition or obstruction, unrealistic demands from site providers and landowners or lack of suitable sites or base station inputs such as backhaul circuits and power can mean that additional cell sites cannot realistically be built or upgrades completed.

There is a need for a more constructive environment to build out networks and facilitate even greater coverage and specific changes are required to current regulations, including the Electronic Communications Code and the Town and Country Planning Order.

See also Commentary and answer to Q27.

Q29: Is there a role for a revised USO or USC to ensure that minimum consumer demand requirements are met and to reduce the potential for a new digital divide? What might this look like?

No. The highly competitive UK mobile market provides suitable access for consumers. Coverage obligations in licences provide a backstop.

Q31: Are there changes to the EU Regulatory Framework that the UK might seek to encourage more competition in UK markets?

Ofcom states that the UK is “the most price competitive mobile phone market in Europe”. Prices continue to fall year after year. In their International Communications Market Report 2013, Ofcom found that mobile pricing continued to be significantly lower in the UK than in other comparator countries (France, Germany, Italy, Spain and the US) and the lowest available UK mobile prices were 27% cheaper than those in the next cheapest country. This is evidence that the UK market is highly competitive and delivers good value and services for consumers. However, from an investment perspective, as we have already stated, a more investment friendly regulatory regime is required.

Q32: Should Government seek changes to the European regulatory framework which put more reliance on competition law and how might this be done?

In the UK Ofcom has concurrent competition powers and has been encouraged by the Government to exercise a preference to use these first. Such a regime might also be replicated and encouraged across Europe to ensure that other EU member states provide a greater focus on competition law.

Q33: In what ways can you see competition driving technological change in the UK in the future?

Competition in the UK mobile market is very strong and in general that ensures that technological change continues to be driven forward in order to suitably meet consumer demand. Competition in devices and ecosystems should be monitored to ensure it is not restricted and serves consumers best interests.

Q34: How can the regulatory framework keep up to date with new business models and changes in technology?

Regulation and Statutory duties should be drafted to be flexible enough to ensure that benefits to consumers are realised over the longer term and that they are technologically neutral and suitably formed so as not to be rendered out-of-date or obsolete due to changes in technology.

Q35: Are there any changes to legislation other than the Communications Act 2003 that would incentivise the provision of communications infrastructure?

The Electronic Communications Code is out of date, does not reflect the current telecoms market and network developments and acts as a barrier to the timely and efficient delivery of services demanded by our customers. It does not provide mobile operators with similar rights to access land as those enjoyed by other essential utility providers.

The Mobile Operators Association (MOA) has responded to the Law Commission review on this and this represents our position on the matter. There are a number of aspects of the Law Commission proposal which would be very helpful, but we also believe that it does not go far enough. Key areas include changing the basis upon which site rents are calculated and making it a criminal offence to block access to a mobile mast or electronic communications equipment.

We also believe there needs to be a statutory protection for mobile operators which will limit or prohibit ransom rents. For example, in cases where infrastructure is shared with another operator and there is little or no change to the footprint of a mast site resulting from the addition of a sharer, a site owner's request for a rental increase should be found to be without justification. We have found that landowners and site owners are increasingly imposing unreasonable and unjustified restrictions in a significant number of cases. This is particularly evident in areas where there are few or no alternative sites and so represents a barrier to rollout and coverage.

Enabling site sharing rights would facilitate a significant improvement to the ability of mobile operators to provide enhanced coverage and facilitate a change to landowners' expectations to the entitlement of significant additional payments for no additional burden.

Furthermore, Part 24 of the Town and Country Planning Order 2001 should be amended in order to assist with the delivery of increased coverage for local communities and provide a regulatory environment for mobile networks that approaches parity with other telecommunications providers. Planning applications for mobile infrastructure are more likely to be refused by local planning authorities than other types of planning application (60-70% approval, compared with a national average of 83%). We want to see a number of types of development moved from requiring full planning permission to permitted development in order to provide greater certainty and enable us to more effectively plan the roll out of our network.

Q33: In what ways can you see competition driving technological change in the UK in the future?

Competition is very strong and we expect this increase further in the future. Companies from differing backgrounds in the technology sector bring different experience to the marketplace and drive further leaps in technological advancements. Free market conditions will allow acquisitions, which allow both economies of scale and the combining of technologies for quicker advancements. Co-operation between competitors (e.g. network sharing) will help operators advance technology development and roll out.

Q36: Would there be benefits to investment from a focus on broadband only services? Are there any barriers to the emergence and adoption of broadband only services, whilst still providing necessary access to emergency services?

Mobile broadband continues to improve in many respects (e.g. speed, consistency, coverage) and has the potential to overtake fixed line services, especially in areas of poor fixed line coverage.

Q37: How might copper access networks evolve over time alongside other access technologies? Is there a role for policymakers in helping manage any transition from copper to other access networks?

Unless ways can be found to use copper more efficiently, it should gradually be replaced with higher bandwidth bearers like fibre. As digital wireless technologies advance, existing copper infrastructure will become less relevant, but not irrelevant. Policy makers should help manage the transition by removing any barriers that may slow the development of future networks.

Q39 Views are sought on:

a) The case for the UK to invest to gain ‘early mover advantage’;

Securing ‘early mover advantage’ is vital for the UK’s digital competitiveness. South Korea prioritised connectivity infrastructure from at least the early 1990s and are now a world leader in the provision of connectivity.

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