

Department for Culture, Media and Sport consultation on a Communications Review for the Digital Age

Qualcomm Response June 2011

Introduction

Qualcomm¹ is grateful for the opportunity to contribute to the Government's Communications Review and welcomes the attention that the UK Government gives to the communications market in the UK.

We offer these comments as an investor in and a developer of wireless communications technology and a key player in the 3G revolution. It is Qualcomm's experience that an environment that both incentivises risk investment in R&D and that rewards successful endeavours can yield huge benefits to the economy and consumers. The fact that we have seen the basic 3G standard, UMTS, evolve from the first 'release' in 1999 promising peak data speeds of 0.384 Mbps, to 'release 10' in 2010 offering peak data speeds of 168 Mbps demonstrates that innovators are willing to continue to innovate and make repeat investments, given that the market values the efforts to develop fundamental and incremental technologies. In the technology field, Government should seek to foster such an environment.

We have therefore focused our comments on the sections 'Growth, innovation and deregulation' and 'A communications infrastructure that provides the foundations for growth'.

Growth, innovation and deregulation

Q1. What could a healthier communications market look like? How can the right balance be achieved between investment, competition and services in a changing technological environment?

The communications market is highly dynamic and characterised by significant innovation in technology, content and services. As the question implies, technologies that underpin the communications market are evolving at a spectacular rate. As such, while considering policies to improve market conditions, care should be taken not to promote policies that distort the natural

¹ Qualcomm Inc is a technology developer and pioneer of core technology which powers the 3G cellular networks, as operated in the UK by O2, Orange, Vodafone, T-Mobile and all other 3G wireless carriers around the globe. A Fortune 500 company, based in the US, Qualcomm has its European Headquarters located in London, including its European Venture Capital arm. Qualcomm invests over 20% of revenues year-on-year in primary R&D, and has R&D centres around the world, including Cambridge and Farnborough, as well as others across Europe. Qualcomm has championed the 'open innovation' model, licensing out the successful fruits of our innovations and having the widest licensing practice in the wireless industry. This has largely enabled the 3G revolution.

evolution of a well-functioning market. Indeed the issue is not the ‘balance’ between investment, competition in the market and services, as there should be no tension between them.

Government must promote business model neutral policies and foster competition between business models. This is notably important in the context of the procurement market, given how critical procurement is to the UK economy.

Q2. What action can be taken to facilitate greater innovation and growth across the wider competition regime, and how can deregulation help achieve this?

Competition can only occur where there is investment, whether in terms of capital, time and/or resources, as this fosters competition on price, quality or innovation. Government should therefore create conditions and incentives for investment in providing better technological, content and service solutions. Government must, on the one hand, foster an environment where firms know that successful investment will be rewarded (including taking account of failed projects), while on the other hand not create uncertainty in return on investment. This is especially true in dynamic markets, where repeat investment is needed in upgrading technologies or keeping pace with market developments.

Many technological inventions are protected by the patent system. The UK patent system is, in our view, working very well. The effectiveness of the UK patent system is evidenced by the vibrancy and rapid technological advancement of the high-tech ICT sector, and the wireless communications sub sector in particular. The unprecedented rate of innovation in ICT technology, equipment, software and services, is evidence of the success of the patent system in creating the conditions necessary for a dynamic, innovation-led economy. Indeed, it is the advances in infrastructural ICT technologies that have enabled and support today’s digital eco-systems of applications, content and services. These advances continue to open up new growth opportunities in new eco-systems they enable and support.²

However, recent calls to reform the patent system need to be analysed very carefully, as changing the scope of protection and the expectation of the inventor will have a significant impact on incentives to invest. First, there needs to be a clear evidence base of the existence of problems (e.g. claims of ‘patent thickets’, ‘hold up’ or ‘royalty staking’ are simply not supported by empirical evidence). Second, changes to the patent system should focus on enhancing the quality and clarity of patents without harming the legitimate enjoyment of intellectual property rights. Qualcomm believes that it would be a catastrophe if R&D investment in complex infrastructural technologies were reduced as a result of well-intentioned policies aimed at removing perceived obstacles to digital ecosystems but resulting in a general weakening of the patent system and the incentive to innovate. Investors in technology rely on the patent system, which has brought massive benefits to the communications sector, notably in wireless technology. Such a fundamental framework that is the bulwark of innovation should not be

² See Qualcomm’s submission to the *Call for Evidence of the Independent Review of Intellectual Property and Growth* at <http://www.ipo.gov.uk/ipreview-c4e-sub-qualcomm.pdf>.

changed to answer a particular business interest, at a particular point in time. Legislating at the fringes, and affecting the overall function of the patent system (i.e. to incentivise investment in technology) would be immensely harmful, as further investment in communications technologies is still required to satisfy the huge demand for data traffic.

Q4. What barriers can be removed to facilitate greater exports and inward investment and make the UK more globally competitive in digital communications?

The recent European Commission's Communication on 'a Single Market for Intellectual Property Rights; Boosting creativity and innovation to provide growth, high quality jobs and first class products and Services in Europe' expressly recognizes that "many European companies nowadays generate a large part of their revenue through licensing of their IP portfolios". Innovative UK firms should be in a position to license out their IPR, without fear of regulatory intervention, where the impact is to limit return on risky investments or simply to shift rents down the value chain.

In order to foster investment in the UK, firms need to know that the UK environment promotes plurality in business models and that the regulatory framework is business model neutral. Government should therefore consider reviewing its focus on royalty free technology for government procurement contracts. For many significant UK public policy areas including health and energy, key communications technologies in the field of e-health solutions will simply not be available if royalty-free policies are proscribed. This will have a significant negative impact on UK companies active in such fields, or investment in the UK market and Government's ability to access these solutions.

A communications infrastructure that provides the foundations for growth

Q5. What further market and regulatory developments would lead to widespread take-up of superfast broadband? What regulatory action would government need to take to make superfast broadband more readily available in a) urban areas; and, b) rural areas?

Superfast broadband availability in rural areas will continue to be constrained by cost. While, mobile broadband in urban areas offer complementary services to fixed broadband, wireless technology is the only tool to provide cost-effective broadband solution in rural areas. As a result, mobile broadband appears to be a transformational tool that has to be considered as a central component of any broadband policy.

In order to successfully deliver broadband to the citizens, economies of scale and the cost efficiency this brings is central. We believe however that economies of scale can only be achieved through spectrum harmonization on a pan-European or international basis. In short, harmonised spectrum usages, and harmonized technical spectrum usage rights, are ever more critical in a world of faster innovation and growing market sizes.

As such, Qualcomm argues that any spectrum management strategy should adopt spectrum harmonisation at European level (and possibly globally) as its cornerstone.

Alongside harmonisation, the UK Government should look to utilise the Authorised Shared Access (ASA) scheme which allows for a shared use of spectrum using cognitive radio technologies based on an individual authorisation model of spectrum rights and would therefore ensure more and more efficient usage of the spectrum resources available. This is detailed further in the Answer to Question 7, below.

Therefore, Qualcomm urges the UK to adopt harmonisation as its main policy for the deployment of mobile broadband, while exploring ASA as a tool in relevant bands to take into account national specificities and preserve national interests.

The combination of harmonisation of mass market at international level and national flexibility for critical services is likely to bring the best outcome for UK citizens and consumers.

Q6. What are the competing demands for spectrum, how is the market changing and how can a regulatory framework best accommodate any rapidly changing demands on spectrum and market development?

Qualcomm believes that mobile broadband take up is a fundamental part of the UK economic recovery, future growth, green development and social inclusion. Pervasive, affordable and easy access to the internet via mobile devices is a transformational tool that could:

- democratise the internet across all generations and across all income levels by lowering the cost of access,
- increase consumer choice and the raise quality of mobile services,
- foster the development and adoption of e-public services,
- trigger new development in productivity by reinventing work methods,
- generate new business models, innovation and further economic activity, respect the country's goals related to a low carbon economy.

Mobile broadband can support most services and will become the ubiquitous platform over which market innovation can flourish, as demonstrated already by the mobile applications market.

We further detail the possible changes to the regulatory framework in the Answer to Question 7, below.

Q7. How should spectrum be managed to deliver our growth objectives whilst also meeting our policy objectives of furthering the interests of citizens and consumers in relation to communications matters?



Qualcomm Europe Inc.

Qualcomm agrees that mobile broadband take up is a fundamental part of the UK economic recovery, future growth, green development and social inclusion. In such a scenario, radio spectrum becomes an even more critical and valuable asset to factor into governmental policies.

While spectrum access and use for mobile broadband services is becoming ever more central to government strategies, non-commercial uses (e.g. aeronautical, space observation, meteorological, military) also remain as important as ever for citizen and governments alike.

Qualcomm stresses that the economic and social benefits of any bands can be maximised when the spectrum is made available on a licensed basis and harmonised regionally (Europe) and/or globally. We thus fully support the UK Government current plan to release 500 MHz of public spectrum by 2020 and believe that Authorised Shared Access (ASA) would be a relevant tool to help achieve this objective.

ASA allows for a shared use of spectrum using cognitive radio technologies based on an individual authorisation model of spectrum rights. An incumbent user's use of its assigned spectrum could vary in the time, frequency and spatial domains. Alongside the use by the incumbent, users can be granted an ASA license. This would be a license to utilise under-used spectrum without interfering with the incumbent user, subject to the terms defined by the relevant authority (government, regulator) and/or upon an agreement with the incumbent user. There may be one or several ASA users per frequency band as there may be one or several incumbent users. CEPT has decided in May to evaluate the ASA scheme.

ASA will benefit from the current framework to manage mobile spectrum. Over the past years Qualcomm has supported a spectrum policy framework based on technology neutrality, through standards competition and pan-European harmonisation of technical spectrum usage rights. Qualcomm applauds the Government and Ofcom decisions in this area, in particular the adoption of the European harmonised band plans in the 800 MHz and 2.6 GHz. The next challenge will be the managed release of additional harmonised spectrum in time. Harmonisation is a pre-requisite to the success of mobile services, which increases the importance of the identification of common bands for mobile broadband at European and internal levels, enabling economies of scale.

Q8. How should the UK engage on an EU/International level in relation to spectrum?

As noted above, economies of scale are a centre parameter in securing the success of a mobile broadband service to the citizens. Economies of scale, however, can only be achieved through spectrum harmonization on an international basis. In short, harmonised spectrum usages and harmonized technical spectrum usage rights are ever more critical in a world of faster innovation and growing market sizes.

As such, Qualcomm argues that any spectrum management strategy should adopt spectrum harmonisation at European level (and possibly globally) as its cornerstone.



Therefore, Qualcomm urges the UK to adopt harmonisation as its main policy for the deployment of mobile broadband, while using ASA as a tool in relevant bands to take into account national specificities and preserve national interests.

The combination of harmonisation of mass market at international level and national flexibility for critical services is likely to bring the best outcome for UK citizen and consumers.

Q9. Is the current mix of regulation, competition and Government intervention right to stimulate investment in communications networks?

Yes, with the following caveats. Communications networks require massive investment to develop, deploy, maintain and upgrade. As stated above, Government needs to create a framework where investors have sufficient certainty that if they take the risk of adopting a certain technology, investing in a network or purchasing license rights, they will be able to seek to gain a return, if the market supports the investment. Arbitrary intervention or regulation that is not technology or business model neutral will have the effect of distorting competition (and notably competition for innovation) and chilling investments. This is especially true given the multiplicity of players at different levels in the communications markets.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]