

Microsoft Response to DCMS Communications Review for a Digital Age

Microsoft welcomes the opportunity to respond to the Government's consultation on the review of communications support and regulation in the digital age. The UK has one of the world's leading ICT sectors, responsible for employing over 1.3 million people.

As a global business with over 90,000 dedicated employees in this sector worldwide, we are able to draw on considerable experience about how the right infrastructure, investment and regulatory framework can create a dynamic digital communications sector that will support economic growth in the UK.

The formation of Ofcom in 2003 has led to the UK being early to adopt a progressive and convergent approach to communications regulation. Many countries around the world now recognize the need for a common set of policies across government agencies overseeing previously disparate industry sectors and have been influenced by the framework behind Ofcom and its bold approach to encouraging innovation.

Now as the UK Government looks to build on this success by readying the framework for the next decade, Microsoft is pleased to bring its global and future looking perspective to the discussion.

In the coming decade we see the traditional boundaries between platforms dissolving still further, with a full range of services being offered on a growing universe of smart, connected devices. This will yield significant gains for consumers in terms of convenience, choice and value. There are opportunities to use this market-driven development to replace the historic need for detailed regulatory intervention. In parallel, industry recognizes a growing need for its members to educate and empower customers to make the choices which meet their needs best. By accepting a greater responsibility for protecting consumers, the industry should enjoy greater freedom to innovate – with consumers reaping the benefits.

Microsoft is proud of its work in bringing together diverse stakeholders to facilitate a more productive discussion between regulators and industry, for example in the UK's implementation of the AVMS Directive and more recently in the UK's preparations for a regulatory framework that would enable access to the TV white spaces spectrum.

In our response to the consultation, we focus on a number of areas which we see as key to this agenda. These are:

1. The need for a progressive broadband strategy
2. Creating flexibility to use spectrum capacity more efficiently
3. The role of Cloud computing
4. Ofcom and the evolving regulatory requirement

1. The need for a progressive broadband strategy

As already stated, the evolving nature of consumer demand for digital products and the desire to enjoy the benefits of increasingly content-rich digital applications places even greater need for a progressive broadband strategy. Microsoft supports governmental policies that help promote continued investment in broadband infrastructure and ensure the ability of consumers to use their broadband internet connections to access lawful content, applications and services of their choice, to connect to and use any lawful device that does not harm the network and to obtain meaningful information about their service

This will require smarter use of spectrum, as stated below, as well as aggressive targets for broadband availability and adoption. The Government also needs to consider developing an approach which supports and incentivizes consumer uptake of web based services. Public authorities can help in a number of ways:

- Coordinating and facilitating the exchange of best practice between fragmented community groups, through initiatives such as the Knowledge Transfer Networks. This could be extended to embrace initiatives in other parts of Europe and other regions of the world – helping to create a stronger incentive for equipment makers to invest in the appropriate technology
- Commissioning content and providing convenient online access to services, and enabling an efficient and fair means of obtaining content rights to support distribution online and via diverse devices and networks
- Encourage broadcasters to provide attractive content and cross-promotion opportunities to drive wider take-up and appreciation of broadband
- Funding the creation of basic infrastructure, such as fibre links to schools and hospitals, which could also provide inexpensive backhaul for local communication services, building on the Government’s proposal to establish community hubs, with publicly subsidised, high capacity backhaul.

2. Creating spectrum capacity

The number of wireless devices used for person-to-person and machine to machine communication is growing exponentially. The emergence of the 'Internet of Things' adds further pressure:

- Ericsson predicts that mobile data volumes will double each year and estimates that there will be 50 billion connected devices by 2020
- Similarly, the U.S. Federal Communications Commission (FCC) has projected strong growth in mobile data traffic levels – by a factor of five between 2009 and 2011, a factor of more than 20 by 2013, and a factor of 35 by 2014

As a result, there is a major growth in demand for spectrum. In order to provide consumers with greater flexibility and utilise the abundant amount of spectrum that is currently unused or under-utilised, we believe the government needs to regulate towards geo-location-based access.

Regulation based on geo-location databases will create the best protection for existing licensees and achieve the maximum benefits for consumers from the new space that becomes available, or the space that is currently under used. The abundant unused capacity in the TV White Spaces has the potential to deliver significant economic and social benefits. Potential benefits from applying TV White Spaces spectrum include:

- Wireless broadband access in rural locations and poorer inner-city areas
- Increased connectivity in classrooms and other public spaces
- Whole-home wireless networks that can reach every device in a multi-storey building
- Larger and more reliable commercial hotspots and campus networks
- Wide-area systems control and sensor networks, helping local government and enterprises manage their responsibilities more effectively. For example, more effective and longer-range remote management of home and offices would help conserve energy.

The Government needs to ensure that Ofcom has the necessary legislative powers to proceed with regulation to enable geo-location-based spectrum access. White spaces gives the UK government a golden opportunity to be a thought leader on these issues; to lead the world in spectrum innovation. This opportunity should not be missed.

A group of world-leading companies in the Communications sector, recognising how critical it is for the sector to enable greater sharing of spectrum capacity has come together to mount the largest trial of wireless networking in the TV white spaces in the world. These companies include: Arqiva, BBC, BSKyB, BT, Cambridge Consultants, Microsoft, Neul, Nokia, Samsung, Spectrum Bridge and TTP.

The companies are exploring how white spaces can be applied across a range of areas, recognising that these are only a starting point:



- Filling broadband access gaps in the city as well as bringing much-needed network access to rural areas
- Enabling smarter management of the city – enabling applications which could include traffic management, environment monitoring, energy conservation etc.
- Location-based services – enabling new business models and allowing local businesses to connect more effectively with their natural customer base
- Local content – enabling easy access to video and audio content relevant to that location
- Emergency services – enabling ad-hoc, on-demand access to spectrum – with the potential to improve the efficiency of emergency response units, who need to work where the incidents are rather than where network coverage has been provisioned

The consortium is deploying a network of multiple white space access points across the city and in rural areas, enabled by its 19-site test licence.

In parallel with developing the applications listed above, the companies will gather detailed measurements intended to support Ofcom’s work in defining the rules under which such flexible access could operate. Microsoft, together with our consortium partners, would be pleased to update the Communications Review team on the trial as it progresses.

3. The role of Cloud technology

Cloud computing has the potential to secure major benefits for the UK economy. These include:

- **Reduced costs:** the UK spends more on information and communications technology than any other country except the US – roughly £50bn in 2009. Estimates suggest that cloud computing could reduce ICT costs by between 20-50%
- **Accessible data:** users can access data or software anywhere they have an internet connection, or they can run their own applications whilst relying on the service provider for the servers, operating systems, or storage
- **Business growth:** it has been estimated that cloud computing could help create up to 240,000 jobs in the short term and 35,000 new SMEs over the medium term in the UK. If your business is growing fast or has seasonal peaks, you can expand quickly because cloud systems are able to respond rapidly to sharp increases in workload.
- **Energy efficiency:** by reducing in-house computing demands, individual businesses can reduce their carbon footprints. Larger organisations can reduce carbon emissions per user by at least 30% by moving some applications to the cloud, while smaller organisations can save up to 90%
- **Added security:** cloud computing has significant potential to improve IT security. Those best placed to navigate the security risks of the Internet are often the cloud providers whose job it is to keep data secure and who have a massive commercial incentive to keep abreast of the latest security developments and the latest solutions to ever-changing security threats.



Regulatory challenges are preventing the UK from realizing the full benefit of cloud computing. In Germany, the Minister for the Economy has already launched an initiative aimed at maximizing the benefit to the economy from cloud computing and we call on the Government to develop a similar joined-up strategic framework. This must see:

- The adoption of a new joined-up strategy, developed in cooperation with the industry that includes cross-departmental working, investment in high speed broadband infrastructure, and direct procurement of cloud computing to deliver government services.
- Safeguarded consumers by upgrading the manner in which cybercriminals and companies who breach consumer privacy and data security can be dealt with through civil and criminal proceedings
- Take the lead in Europe, by ensuring a single digital market than enables easier internet operating across national borders

4. Ofcom and the changing regulatory environment

The challenges of this evolving digital age will place new pressures on regulators around the world. In the UK, Ofcom to date has overseen both content and infrastructure. This has served the early stages of communications regulation well. However there are some core principles that need to be considered in the provision of future regulation:

- As media converges, the previous manner of regulating to standard broadcasting models is increasingly out of date. In the digital arena it is essential that a framework to delineate appropriate and inappropriate types of discrimination be supported by an agile and efficient enforcement regime.
- There needs to be a separation of the regulator's powers over harm and offence or digital literacy, from core issues around spectrum, telecoms and broadcast regulation.
- An expedient enforcement mechanism will be critical to the proper functioning of the marketplace while also protecting a consumer's fundamental right to access lawful content, applications, and services, attach lawful devices of the consumer's choosing to the network, and to receive reasonable information about the Access Provider's practices.
- Such an enforcement mechanism will avoid the unintended consequences of overly-proscriptive rules — such as reduced investment in broadband networks — while ensuring that the Internet continues to thrive and remains open to innovation and that consumer choice is preserved.

Finally, the regulator must take a careful balance around privacy and the rights of the consumer, whilst not inhibiting the potential for economic growth through data driven innovation.

