

Intellect Response: Transforming the Digital Dividend opportunity into social benefits and economic growth in Europe September 2009

Russell Square House
10-12 Russell Square
London WC1B 5EE

T 020 7331 2000
F 020 7331 2040
www.intellectuk.org

Information Technology Telecommunications & Electronics Association

Contact: Henry Parker
T: 020 7331 2019
E: henry.parker@intellectuk.org

1) Introduction

Intellect is the UK trade association for the technology industry which comprises the information and communications technologies (ICT), electronics manufacturing and design and consumer electronics (CE) sectors, including defence and space-related IT. We are formed by 780 Small to Medium Sized Enterprises (SMEs) and multinational member companies with interests in these sectors and exist solely for their benefit. Over the last 12 months, we have hosted 550 meetings attended by 3,486 people visiting our London offices and hosted 60 events for our member companies. 3,900 delegates have attended conferences we have organised in the past year. The industries that Intellect represents contribute at least 10% of the UK's GDP, employ approximately 5m people and contribute £120 billion to the UK economy. The UK was also the largest market for ICT in the European Union in 2008, overtaking Germany with an estimated spend of €73.16 billion on technology products and services¹.

Our members wish to promote the benefits that technology can bring to both consumers and the wider economy across Europe, and we are grateful for the opportunity afforded by the Commission to provide our view on how such benefits can be effectively realised through appropriate use of the digital dividend.

2) The concept of an EU Roadmap

Intellect agrees that the social and economic benefits to be derived from the digital dividend would be best maximised through a coherent and transparent set of strategic actions on a truly pan-European basis. Commercial interests, be they device manufacturers or network operators', benefit hugely from harmonised allocations of spectrum and technical standards. Their costs are significantly reduced by such agreements. Consumers benefit in kind through lower prices for services and goods that such harmonisation facilitates. A roadmap that member states commit to follow, backed by robust mechanisms for monitoring those commitments, is a welcomed means towards achieving such harmonisation.

Intellect also endorses the proposals to use the proposed multi-annual radio spectrum policy programme as a means of ensuring European Parliament and Council of Ministers scrutiny of the future EU roadmap. Ensuring that effective political checks and balances are applied to any plans to release spectrum is important if they are to receive appropriate scrutiny.

3) Improving consumers experience by ensuring high quality standards for terrestrial digital television receivers in Europe

As a general comment, Intellect believes that the introduction of new services and standards, which were not present when many of the numerous existing DTT receivers were designed requires appropriate network planning, implementation and deployment. Existing CEPT conclusions and recommendations in this area need to be properly referenced.

¹ European Information Technology Observatory.

Ensuring the availability of a compression standard on all DTT receivers sold after 1st January 2012 that is at least as efficient as the H264/MPEG-4 AVC standard

Mandating the adoption of relevant compression standards in DTTs, (specifically the H.264 encoding/compression standard) across member states is welcome first step in moving towards the full realisation of the benefits to be gained by consumers from HDTV. We would however urge the commission to take full account of range of associated factors in realising this objective.

In particular, we believe the Commission needs to address the issue of ‘legacy’² equipment already in use across the European Union. There are already approximately 18,000,000 DTT receivers currently operating in the UK alone. The number operating across the EU is likely to be far higher. Whilst manufacturers can produce the equipment, the decision to actually start using it is for the consumer. Consumers need to be convinced of the direct benefits of upgrading their equipment. This is compounded by the fact that (in the short term) DTTs that meet these standards will be more expensive to produce and therefore more expensive to purchase.

At a more fundamental level (and as the consultation document acknowledges), there is still a need to ensure that all EU member states move towards digital switchover in a timely and efficient manner. There is also evidence that even amongst member states that already operate digital services no clear roadmap exists to actually encourage the purchase of the DTTs necessary to enable consumers to enjoy the benefits.

In the light of these facts, Intellect believes that the Commission should go further than simply mandating that DTTs include relevant compression technology, and also address the need for broadcasters in relevant member states to further incentivise purchase of DTTs (that include the relevant compression standards) by viewers that do not currently own them. Without such incentives, there is a risk that this measure would be perceived by consumers as one of forced early equipment obsolescence³ by manufacturers and the efficient use of digital dividend spectrum that it aims to facilitate will not be realised. Additional incentives to the consumer can be provided by removing sales tax on DTTs.

Setting Standards for the ability of Digital TV receivers to resist interference

Intellect broadly supports the concept of moving towards a harmonised standard for interference resistance by DTTs and our members are happy to work with the Commission in formulating it. As with mandating compression standards, we would point out that it is difficult if not impossible to apply a new interference resistance standard to DTTs that are already in use.

In relation to this point, Intellect would suggest that there is potential for interference to be caused to *existing* DTTs by new devices that make use of the 800 MHz band when released. In the UK, Ofcom has recognised that in awarding licenses for Digital Dividend spectrum, specific technical conditions will need be included that aim to limit the risk of harmful interference

² “Legacy Equipment” is a term used to describe devices already in use that do not include functionality introduced in new devices placed onto the market by manufacturers.

³ This can be defined as a situation where equipment is designed and manufactured to be obsolescent earlier than it could be, thereby forcing the consumer to upgrade their equipment more frequently, and incur greater cost, than they need to.

between these new services and existing UK DTT services⁴. Given the proven technical possibility of such interference occurring, we would suggest that the Commission considers whether harmonised technical conditions for any 800 MHz licenses awarded in member states should also include such provisions. As well as stipulating these provisions, we believe that the Commission should consider how to effectively partner with National Radio Regulatory authorities in mitigating the impact of this phenomenon and would suggest that there is a role for member state, and pan-European, trade bodies in ensuring that appropriate co-ordination and interference mitigation processes are undertaken. Likewise, the Commission will need to address the nature of how interleaved spectrum⁵ might be allocated and used. Regardless of the reduction of interference achieved by introducing new standards, the nature of the electromagnetic spectrum requires that some residue of interleaved spectrum and harmonic protection be retained.

4) Increasing the size of the digital dividend through further spectrum efficiency gains

Promoting collaboration between Member States to share future broadcasting network deployment plans (e.g. migration to MPEG-4 or DVB-T2)

Intellect fully supports this initiative, and believes that reducing the potential for divergent broadcast network deployment plans across the EU will lead to substantial benefits for both industry and consumers. The precedent has been set in a number of the larger member states for MPEG-4 and DVB-T2 to be the baseline for such deployment. The direct terrestrial broadcasting of HDTV has recently improved its spectrum efficiency by using MPEG4 codecs (For example, France DTTB, which has been operational since autumn 2008) and from now on, since this technology has become available recently, DVB-T2 for the implementations to follow (e.g. UK). However, it is important that following successful implementation of these plans, the Commission seeks to minimise the emergence of any new deployment plans in the short to medium term. Some degree of stability is required for the next 5-10 years.

There is also a need to ensure that migration to such network deployment plans do not unduly affect consumers and the current market situation. In Intellect's view, the primary goal in terms of moving towards to harmonised network deployment plans should be to realise the efficiencies brought about through digital switchover. As experienced in the UK, communication and timing is key if momentum towards such switchover is to be maintained. Resources for maintaining such communication, and meeting the necessary milestones on the road realising any such initiatives, are currently limited.

5) Availability and use of the 790-862 MHz band

Intellect believes that the 800 MHz band will be used to deliver both increased capacity and better in-building penetration. The 800 MHz band will complement other mobile broadband frequency bands (900 MHz, 1800 MHz, 2.1 GHz and 2.6 GHz) in order to ensure a real mass market broadband experience from a consumers perspective. We agree that a timely recommendation and common European direction are important signals towards the entire industry and consumers.

⁴ Ofcom Digital Dividend Review: 550-630 MHz and 790-854 MHz, Consultation on detailed award design.

⁵ Interleaved spectrum acts as 'buffer' between television transmitters to stop them interfering with each other.

In social terms, making the digital dividend available for broadband, alongside spectrum in other bands, can help close the digital divide. Overall, the Internet usage will be nearly four times larger in 2013 than in 2009, while mobile data and Internet traffic will more than double every year in Europe. Additionally, the modern consumer and service subscriber are becoming more mobile and no longer accept limitations in applications and accessibility to content.

As the demand for bandwidth to deliver ICT applications explodes, growing much faster than the current expansion of wireless networks, consumers need to be provided with appropriate access to delivery mechanisms to meet their needs. Intellect is of the opinion that the “digital dividend” band could complement other mobile broadband frequency bands.

Intellect believes the digital dividend spectrum should be made available on a technology and service neutral basis for wireless mobile broadband. The key principle is for the market to decide which technologies are deployed and which services and applications are offered. If the Commission does determine that 800 MHz spectrum can be made available for wireless mobile broadband, we would suggest that further work would be necessary to define what the term ‘broadband’ actually means. A firm and agreed definition would ensure that any allocation of 800 MHz spectrum for ‘mobile broadband’ is used for the specific purposes that the Commission may envisage. Many regulatory National Regulatory Authorities are currently re-evaluating their understanding of this term in the light of the evolving nature of this technology, its applications and delivery mechanisms- most notably the Federal Communications Commission in the US⁶. In the context of the UK, and its recent commitment to introduce a universal service commitment for broadband access at 2Mb/s using all available platforms, Intellect is working to establish an industry vision of what such a definition should be. We would be pleased to work closely with the Commission on formulating a similar definition across the European Union if the need were to arise.

Intellect is also concerned over how any future digital dividend extensions with the spectrum below 790 MHz could be realised. Extending digital dividend spectrum below 790 MHz means either introduction of one FDD arrangement with the new duplex gap for the whole new band or will compulsorily lead to two sub-bands below 862 MHz – one with FDD arrangement (790-862 MHz) and second with TDD or separate FDD arrangement (below 790 MHz). It should be noted that in both Region 2 (the Americas) and Region 3 (Asia-Pacific) the Digital Dividend comprises the entire 690 – 806 MHz, band; a full 36 MHz more spectrum than currently foreseen in Europe. From the outset this seems to put Europe in a disadvantaged situation. European harmonisation in due course for additional digital dividend spectrum would be a beneficial step on the road to global spectrum harmonization.

One issue not directly addressed by the consultation is the size of spectrum blocks made available to spectrum winners in order to roll-out their networks. Regulators should recognise the need for substantial blocks of spectrum to deliver advanced speeds and services. There is a perception that broadband technologies only require channels with 5 MHz bandwidth but for true broadband delivery service providers will certainly need 10 MHz channelisation or more to satisfy the market demand for high speed data application and services. In order to achieve the necessary size, operators should be able to bid for the basic blocks on a contiguous basis, i.e. aggregate several blocks of 5 MHz. These broadband channel arrangements are essential for accommodating the mix of asymmetrical video, data and voice applications. However, with larger blocks required per operator, the relatively small amount

⁶ “Federal Communications Commission Seeks Targeted Comments on Defining Broadband” Public Notice #1 GN Docket Nos. 09-47, 09-51, 09-137

of 800 MHz Digital Dividend spectrum available in total is likely to be insufficient in many markets to support all players who would need to access it (encompassing existing mobile network operators, potential new operators and operators not having access to similar lower frequency spectrum). Therefore, as is common in fixed networks, wholesale access obligations should be placed on networks deployed in the digital dividend spectrum.

While Intellect agrees it is ultimately beneficial for both industry and consumers if the digital dividend is allocated as soon as possible we believe this need to be done in an open and transparent manner.

6) Adopting a common position on the potential Use of “white spaces”

Intellect believes that innovative use of spectrum provides significant and direct benefits to both European citizen-consumers and the European telecommunications industry. Use of white spaces by Cognitive Radio Devices (CRDs) is an example of such innovative use. However, given the implications that introducing these services could have for existing applications, it is imperative that any regulatory approach and standardisation adopted within the European Union is harmonised.

“White spaces” exist in order to prevent co-channel interference. The extent of the use of these white spaces by CRD – in addition to existing Programme Making and Special Events (PMSE) users – will be directly related to the nature of the technical and operational requirements formulated to avoid interference to protected services.

Devices making use of the “white spaces” would undoubtedly help to improve access to the Internet in some areas. At the same time, Intellect believes that the viable provision of ubiquitous broadband coverage using CRDs is not yet clear. Protection of existing licensed broadcast services will require severe restrictions to be placed on their use. The United States already allows personal/portable devices to use the white spaces on an unlicensed basis.

The Commission should also note that allowing use of CRDs in the white spaces presents a significant risk of direct interference to existing Digital Television Receivers. These receivers have not been specifically designed to withstand in-band transmitters in near to medium proximity. This effect may well not be directly related to the selectivity performance, but could instead be in the form of direct electromagnetic disturbance to the electronics of the TV. If this phenomenon were to occur, major interference problems could be experienced. The Commission should undertake a full assessment of this risk prior to allowing use of CRDs, with particular reference to relevant experts in electromagnetic compatibility.

Finally, it is important that any new CRD devices using “white spaces” operate within parameters that afford appropriate protection to the licensed users of the same spectrum. The additional access these devices will provide can only be made broadly available to consumers on a non interference basis. Whilst “white space” technology can potentially complement other internet access mechanisms through the European Union, it must do so within limits that allow adequate protection of existing and licensed services. This must be demonstrated through trials and further technical analysis under the aegis of the CEPT.

7) Wireless microphone applications and other secondary uses of UHF Spectrum

Intellect fully concurs that the digital dividend process presents a particularly timely opportunity to ensure that secondary users of UHF spectrum, in particular wireless microphones and similar applications (known as Programme Making and Special Events, or PMSE, in the UK) can enjoy the benefits of harmonization of spectrum allocations across the EU. A necessary first step in this process would be an investigation into the actual spectrum needs of the PMSE microphone services. We agree that the issuing of a mandate to CEPT by the European Commission would be the best way to initiate such an investigation.

Accelerating analogue switch-off by 2012

It is crucial that potential commercial users of digital dividend spectrum are afforded the greatest degree of certainty possible over the date for analogue switch-off across Europe. The greater the certainty in terms of timeframe, the greater the economic value of the spectrum, and (potentially) revenue to be gained by Member states who determine value of spectrum, and allocate it, according to market mechanisms. Ensuring that commitments to clear the relevant bands of analogue TV use are enshrined in national law (if this has not already occurred) is a welcome step towards achieving such certainty. In our view, this requirement is preferable to the Commission requesting that member states simply 'reaffirm' a commitment to deactivate analogue TV broadcasting by 1st January 2012. National legislation provides far greater certainty for commercial interests looking to provide services in digital dividend spectrum on a pan-European basis. This is likely to lead to greater investment in services, thereby offering consumers greater choice and higher quality services.

END OF INTELLECT RESPONSE
