

Response To RSPG's Consultation On EU Spectrum Policy Implications Of The Digital Dividend

About Arqiva

Arqiva has a 50-year history in UK transmission and has helped pioneer the technologies of the digital age.

Arqiva is responsible for the entire analogue transmission networks for UK public service broadcasters ITV1, Channel 4, and five and played a leading role in the introduction of digital terrestrial television, for which we have built national networks carrying the Digital 3 & 4 and SDN multiplexes. The network for Digital 3 & 4, with its regional structure, is one of the most complex digital terrestrial TV networks in the world. Arqiva has recently been appointed as the transmission and distribution supplier for the BBC's new high power DTT multiplexes and also for future DAB expansion requirements.

Arqiva owns and operates some 350 FM and 70 MF transmitters, with customers ranging from the large radio groups such as GWR, EMAP, Chrysalis, Capital and Scottish Radio Holdings, to small community-based stations, and has played a leading role in the development and introduction of DAB digital radio in the UK, supporting the commercial radio industry in making the transition from analogue. Arqiva built the transmission network for Digital One, the UK national commercial DAB multiplex, and has multiplexing and transmission contracts for 42 of the 46 local and regional DAB multiplexes.

In respect of mobile TV, Arqiva undertook the feasibility studies, field trials and network design for the Singapore mobile DVB-T network. In addition, Arqiva also operates the infrastructure for:

- the Oxford DVB-H trial
- the Mobile TV Now! L-Band DMB/DAB-IP trial, currently on air in London
- the Cambridge technology trials: the convergence trial in partnership with Microsoft and the second in partnership with BSkyB, comparing the performance of mobile TV broadcasting using MediaFLO™ technology with DVB-H

and will operate, in partnership with O2, next year's consumer DVB-H trial in Dublin.

All of the above activities are underpinned by Arqiva's Spectrum Planning Group which has extensive experience of planning analogue and digital TV and radio networks and which also offers a coverage prediction service for Arqiva's radiocommunications customers.

Comments on the RSPG consultation

1. Introduction

Arqiva strongly agrees with the importance of the prospect of a digital dividend, which will offer:

- More efficient use of spectrum, enabling consumers the option of a much wider range of television services (including HDTV) with interactivity via terrestrial reception, increasing inter-platform competition and, because of the ease of achieving portable reception by terrestrial broadcasting, increasing access opportunities
- New, innovative services such as mobile multimedia services (most efficiently offered in UHF), 3G and WiMAX (specification pending)
- The use of interleaved spectrum for Programme masking and Special Events (PMSE) and local TV.

Arqiva agrees that there should be no attempt to impose any particular solution on individual Member States for the sake of uniformity. The Commission should beware of demands for European solutions to national problems.

2. The digital dividend and its possible forms

Arqiva agrees that the list of potential uses of released spectrum is wide, though with differing amounts of spectrum being made available in each member state, the potential for a wide range of services in practice to be made available will vary considerably.

Arqiva agrees that where a range of services utilising technologies from different families are to co-exist (e.g. DVB broadcast, WiMAX IP two-way comms) in the same band, this may raise issues of interference and the need for guard bands, thus the application of technology and service neutrality may leave this valuable spectrum with a greater proportion of unused spectrum than before, albeit that digital technological advances should ensure that “occupied” spectrum is used far more efficiently than it was for analogue technologies.

Arqiva agrees that, where 2G is implemented within the same handset, accommodating mobile multimedia services (MMS) in UHF would require a minimum frequency separation, resulting in the need for such services to operate in spectrum below Channel 55. This should still enable a considerable amount of released spectrum to be licensed to potential MMS operators.

Of greater concern than a minimum frequency separation is whether GE-06 outputs enable SFNs to be easily constructed.

3. The regulatory framework established by the Geneva 2006 Agreement, its limitations and possible scenarios

Arqiva recognises the current ITU limitations on operating mobile uplinks within bands IV and V, and agrees that additional flexibility should be sought at WRC-07.

Arqiva also recognises that a harmonised sub-band for mobile multimedia services (MMS) should minimise any problems resulting from co-existence, whether from the operation of different broadcast technologies within the same band or from different technologies being operated on the same frequency either side of a national border. However, it could only be achieved at disproportionate consumer welfare loss as a result of delay and potential impact on DVB-T networks.

To ensure that spectrum allocation conforms to the overriding principal of spectrum liberalisation, that market signals should be the most important guide for spectrum awards, the size and location of such a sub-guard band could only be finalised following the conclusion of the relevant spectrum auction or beauty contest. As those will take place on a national level, to different national timetables, achieving a sub-band harmonised across the EU could only be implemented as a result of disproportionate interference, re-planning and, very likely, considerable delays in awarding spectrum for MMS, services for which considerable consumer demand and willingness to invest already exists.

While some countries may feel that their GE-06 outputs would not easily accommodate the flexible use now envisaged, any desire on the part of their governments for extensive, retrospective re-planning would inject uncertainty and delay the benefits of the digital dividend.

In addition:

- the optimum spectrum for MMS to use will be heavily influenced by planned DVB-T use, which differs markedly across the Union
- considerable investment has already been made in DVB-T infrastructure based on the assignments agreed at GE-06.

For the above reasons, Arqiva believes that **the clear balance of advantage lies in a quick rejection of pursuing a harmonised sub-band.**

If the result of such a rejection is that MMS occupy different UHF frequencies across the Union, that need not be limiting. While we recognise that handsets optimised for a narrow sub-band should result in antenna gain which would be reflected in lower network costs, there is no guarantee that handset manufacturers would actually develop equipment specifically for Europe, where economies of scale would be maximised by the development of handsets which tuned across bands IV and V and which could then be sold into markets worldwide. There is thus a balance to be struck between network and handset costs.

4. The Opinion of the RSPG

Arqiva agrees that member states should take account of economic and social benefits, plus the promotion and of cultural diversity and media pluralism - but any distortion of market forces to achieve that must be proportionate.

Arqiva agrees that the use of advanced codecs (such as MPEG-4/AVC or VC-1) *for new services* should be encouraged. But migrating existing services from MPEG-2 would have considerable consumer costs and could reduce consumer support for achieving the digital dividend.

As stated above, Arqiva strongly believes that the considerable disadvantages of achieving a common sub-band for MMS do not outweigh the advantages. The greatest benefit would be achieved by quickly making suitable spectrum available for MMS to meet current market demand.

There must be no delay in releasing spectrum to the market for MMS use. Uncertainty about this will:

- inhibit investment in these innovative services
- cause Europe to fall further behind Asia in exploiting what MMS offers
- result in considerable consumer welfare loss.