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## Securing long term benefits from scarce spectrum resources

### A strategy for UHF bands IV and V

Response by Brian Copsey

*This response should be read in conjunction with that from BEIRG which supplies further detailed information on the PMSE Industry*

### Overview

A strategy for the 470-790MHz band should **not** include any further spectrum for mobile networks, if the UK objective is to provide broadband both rural and “mobile “the use of mobile networks is the least efficient and most expensive in social and financial terms.

The Consultation document appears to conclude that the use of the 700 band for mobile is a forgone conclusion, and is in the best interest of the UK, this has not been proven and should be carefully reexamined using both the perceived advantages but also include this time the real costs to citizens and other industries to achieve a proper economic impact balance sheet

Another consideration in the light of the stated UK objectives to provide broadband both rural and “mobile of is the apparent failure of the 800 band allocation to achieve these objectives which we were told was the prime reason for 800band allocations.

The Strategy should include:

- increased TV services to the citizen such as extended HD availability, and 3D when available and more radio programs ,
- Additional PMSE allocation's to provide enhanced income to UK from theatre, films and TV program production as well as enhancing the outdoor events such as concerts, rock festivals which attract very large number of foreign visitors
- Use of WSD to provide rural broadband and other services
- Clear guide lines to industry that the strategy will remain in place for at least 10 years to restore industries faith in Government policy on spectrum and encourage industry to invest in R&D

Reviewing the “costs” which do not appear to have been clearly identified and set against the consumer surplus;

1. Wasted cost of installing and designing (twice) the television transmitter network for the 800Hz mobile networks
2. Cost of redesigning and installing the TV transmitter network(for the third time )for the 700 band
3. At least one million domestic aerials to be replaced

4. Cost of replacing filters and realigning in domestic, communal and business TV distribution systems
5. Cost to Theatre, Houses of Worship and the entertainment industry in replacing equipment and systems installed due to 800 band allocation
6. Cable TV suppliers for replacing equipment and reengineering their service

Judging by the proposed arrangements for current mitigation to interference these costs will fall on the general public via licensee fees, tax and direct costs to replace their equipment rather than the considerable profits of the mobile industry

In addition the social costs are at least

7. Potential loss of TV programs and services to the general public
8. Loss of programs means less will need to be made hence unemployment and loss of revenue to UK companies, and loss of export earnings as well (how should this be expressed in an economic impact assessment?)
9. Potential loss to the UK of the DTT platform if interference and cost of replacement equipment means the general public switches to alternative platforms(if they work)
10. Loss of choice to viewers of communal aerial system's as injected TV content is lost due to the new 700 allocation
11. Loss of spectrum to cable TV systems which supply real high speed broadband

Decisions on the future of the 470-790 MHz band is core to a range of decisions on the future use of Spectrum in general, for once the steam roller that is the mobile industry has had questions on the economic and social benefit of these networks with the European Commission expressing the view that releasing the 700MHz band for mobile use "may not be the best use of the spectrum", I totally concur with this view and would go further and say that any decision on the 700MHz band should be delayed until the full impact of LTE on Europe is known and understood and that White Space Technologies are given a chance to develop(*Mobile use of 700 band will kill this fledging and interesting industry*)

Looking at the WRC decision, is there any reason Africa cannot use this band without affecting Europe, even to the extent of moving the boundaries of region 1 to exclude Africa?

Reviewing the economic case for mobile annexation of the 700 band I find, from the limited details that I have listed below that a somewhat biased view of the "social and economic advantages" of mobile networks has been promulgated without the corresponding costs especially the social and financial costs to the citizen. Neither has the ability of other platforms to supply broadband been taken into account. With the importance of this decision Ofcom has a responsibility to produce a detailed and balanced economic impact assessment of the subject before taking any further steps in making a decision on the 700 band

The Ofcom approach in this and other consultations looks at Economic Benefit and Citizens and Consumer benefit, using a range of reports commissioned by Ofcom, taking these two headings:

### **Economic Benefit**

Within this consultation and many other documents Ofcom makes an “unbeatable” financial case via its many reports that Mobile networks produce the most “consumer surplus” however in examining some of these in detail, and using *Economic impact of the use of radio spectrum in the UK* as an example, whilst every avenue is explored to show the (undoubted) financial benefits of the mobile networks it excludes a number of high earning uses of spectrum to over emphasis the “case “ for allowing mobile networks to have additional spectrum

Whilst not being an economist and looking at other(then Ofcom,s) perspectives on the Economic value of spectrum to the UK, I considered the following:

### **Culture Media and Sport Publications:**

Taking the extract of table1 below from . <http://www.culture.gov.uk/publications/8682.aspx> and using similar positive views to express the worth of spectrum industries shown rely heavily on the use of radio spectrum to achieve their products and should be considered as part of Ofcoms equation

Table 1 – Gross Value Added by the Creative Industries - 2008 and 2009

Sector	2008		2009	
	Gross Value Added (GVA)* (£million)	Proportion of total UK GVA (%)	Gross Value Added (GVA)* (£million)	Proportion of total UK GVA (%)
7. Film, Video & Photography	2,680	0.21%	3,000	0.24%
9 & 10. Music & Visual and Performing Arts	3,740	0.29%	4,070	0.32%
8 & 12. Digital & Entertainment Media	160	0.01%	400	0.03%
13. TV & Radio	4,950	0.38%	5,260	0.42%
	11,530	0.89%	12,730	1.01%

## **Some UK Based financial information on Spectrum advantage to UK industry**

**Source:** ConcertManagers Assn.

843.5 million in 2010 based on ticket sale which are subject to PRS

**Source:** West End Theatres in London only:

The latest set of full year figures are for December 2010 (the 2011 figures will be published in the spring).

### 2010

Total Attendances: 14,152,230.

Total Box Office Revenue: £ 512,331,808.00.

Total number of performances given: 18,615.

The TMA which represents theatres in the regions, does not collect their figures in this detail, but in terms of overall attendance and revenue is thought to match fairly closely those of the London theatres.

### **General.**

The Wyndham Report (now out of print) was put together by Tony Travers of LSE in 1996, and there is no reason to suppose the overall ratios have changed, and showed that an average of £4.4 was spent in the wider West End economy by theatregoers, for every £1 they spent at the Box Office on tickets.

This gives a figure of £5,965,659,955.20 for the UK economy, plus £843.5 million for concerts and £ 512,331,808.00. for London Theatres

Giving a total of **£7,321,491,763.20**

### **Other related Financial figures**

#### **Europe**

Economic potential of PMSE applications to Germany: 474.43 bn euro. If Ofcom carried out a similar survey I wonder how if the figure would be larger?

*Please see Annex 1*

## **USA**

Whilst not targeting the 470-863MHz band the Microsoft funded report:

*The economic value generated by current and future allocations of unlicensed spectrum by Richard Thanki*

Clearly shows that unlicensed spectrum generates more Economic benefit than any other use of spectrum

### **Citizens and Consumer benefit (?)**

This and other work by Ofcom centers on the ability of the mobile networks to provide access to broadband, this approach mainly ignores the fundamental communication issues in providing such a service, and the considerable costs for the citizen in using these services when cheaper and more spectrum efficient options are available.

If the Ofcom objective is to provide broadband including rural broadband( the prime reason given for the 800MHz allocation!) then the emerging White Space Technologies coupled with fibre optic backbones(required for any system including mobile) as shown by the Isle of Bute trial([www.wirelesswhitespace.org](http://www.wirelesswhitespace.org)) provide a better use of spectrum and more cost efficient solution to the citizen, add to this the growing “free “Wi-Fi” in major conurbations plus other local distribution of internet access encouraged by Government grants and the case for using any additional clearance of spectrum for these delivery mechanisms rather than expensive Mobile networks is clear.

Other negatives in using the new allocation for mobile broadband are:

1. Cost of replacing interference filters in domestic and commercial aerial installations
2. Loss of TV coverage for citizens
3. Cost of replacing these “lost” services with other delivery platforms(if they are interference free
4. 2 will include the loss of HD and other enhanced TV options
5. Loss of injected TV content in communal aerial system’s
6. Loss of spectrum to cable TV systems

Annex 1

**Economic potential of PMSE applications**

This estimation of the German economy potential generated in the professional event production by wireless production tools was collected by APWPT in 2008:

Category	Sales size	Explanation	Source
Sales volume of the enterprises of professional light, sound and event technology	3.5 bn. €	The VPLT (10) has around 1.100 members with more than 10.000 employees. The rental companies of wireless radio systems are among others included.	Association information of the VPLT (7)
Concert and event market	3,873 bn. €	79.4 million visitors	GFK study 2007 (3)
Total turnover of the event economy	66.7 bn. € of this 31.7 bn. € directly into the event-centres	<ul style="list-style-type: none"> <li>• 2.8 m. organizing actions for more than 331 m. visitors.</li> <li>• 6200 conference and event venues</li> <li>• 1 m. jobs of the line of business generated</li> <li>• 30.000 people directly employees of event centres indoor</li> <li>• 3.000 trainees/a</li> </ul>	Meeting and event barometer (4)
Classic advertising editions in result of fairs and events	12.8 bn. €	These are 18% of the complete marketing charges of the economy. Altogether, the advertising market of Germany contains a complete volume of 71.6 bn. €	Stage report 11.08 (9)

Culture and creative economy	128 bn. € (Estimate 1)  ----- -- 60 bn. € (Estimate 2)	<ul style="list-style-type: none"> <li>• 227000 enterprises</li> <li>• 1 m. employed person</li> </ul> ----- <p>There are about million people working for 210.000 enterprises in the culture and creative economy.</p>	Initiative culture and creative economy (10)  ----- -- Initiative of the representative for culture and media and the BMWT (6)
<b>Category</b>	<b>Sales size</b>	<b>Explanation</b>	<b>Source</b>
Theatre enterprise	3 bn. €	Gives approx. 500 theatre enterprises including the free theatres in Germany. These employ 60.000 employees; have approx. 40 m visitors and generate a complete sales volume of almost 3 bn. €	Information of the German's Stage Association and the Federal Association of the Theatres and Orchestras (5)
Hardware sale of wireless microphones and wireless instrument	65 m. €	Since all market relevant suppliers take part in IMIS, this number corresponds 5% to the complete trade sales volume in Germany.	IMIS (1), 2007
Total sales volume caused by trade mentioned above and its results (2) (Minimum volume.)	130 m. €	The SOMM (1) estimates five times of the trade sales for the events generated and the supplies needed for it	IMIS (1), 2007
Public broadcast	2.68 bn. € Gross value product in the Year 2006 (8)		Goldmedia study 2008 (8)
Private broadcast	2.75 bn. € Gross value product in the Year 2006 (8)	In the year 2006 (11): <ul style="list-style-type: none"> <li>• Annual sales volume approx. 8.3 bn. €</li> <li>• 23.000 employee</li> </ul>	Goldmedia study 2008 (8)

## Sources and assumptions:

7. IMIS (international musical instruments industry statistics) is the market statistics of the supplier sales lifted up by the Society of Music Merchants (SOMM) in Germany. Since the calculation in the trade shows an average factor, the numbers of IMIS can be projected onto trade sales.
8. The projection "only" contains the consequences from appearances in the area of stage technique (stage making/exposure to sonic waves/lights), its periphery (special buildings, change or modification of a further operations technology in the environment of the event by use of radio engineering) and the concomitants of these events which have superficially to do nothing with a the technical putting into action like vehicles and whose business, catering, tourism.
9. GFK study in 2007 to the consumerism of the concert and event visitors in Germany in the order of the federal association of the event economy (idkv).
10. Meeting and event barometer is, made every year this of European association the event cent reindeer (EVVC), the German head office for tourism (DZT) and the German Convention Bureau (GCB).
11. Theatre statistics 2006/2007 of the German stage organization.
12. Federal Government "strengthens" the Federal Government's culture and creative economy information (government online 09.05.2008).
13. Information of the association for light, clay and event technology (VPLT).
14. The Goldmedia study 2008 "variety by a private broadcast" in the order association private broadcast and tele-media (VPRT).
15. The stage report is a business to business report of the "AktivMedia Marketing- und Medienkommunikation GmbH" which publishes the current news from the area of show and stage production monthly.



16. In the context of its initiative culture and creative economy the Federal Government has ordered an examination to the culture and creative economy. The first intermediate results were discussed in an expert workshop in the Federal Ministry of economy and technology on October 27th, 2008. The parliamentary permanent secretary with the Federal Minister for economy and technology, Dagmar G. Wöhrl:

"The culture and creative economy has a sales volume after estimates in height about 128 bn .in the year 2007 euro obtains. This has grown by more than 3 per cent compared with the year 2006 with that. The number of the enterprise and the employed persons also has increased further: employed persons are working in this economic sector 227.000 enterprise and 1 m. .by now. These are very positive results, this one the economic meaning of the culture and creative economy again emphasize"

Altogether, the culture and creative economy contain eleven sectional markets. The nine sectional markets have music economy, book market, art market, film industry, broadcast economy, representative art, design economy, architecture market and press market to be classed with the culture economy. The two sectional markets in addition are advertising market as well as included Games industry/software as creative industries. Contractors of the research report are the office for culture economy research, Cologne (KWF), Prognos AG, Berlin, and the enterprise Creative business Consult (CBC), Bremen.

