



## **GSM Association Response to the Independent Communications Authority of South Africa**

**Regarding the Government Gazette of 4 September 2009, No. 32559**

### **INTRODUCTION**

The GSM Association thanks the Authority for the opportunity to respond to its plans for use of the digital dividend spectrum at 470-862MHz. We would like to highlight the opportunities offered by this band for the roll-out of mobile broadband.

### **UHF CHARACTERISTICS**

The characteristics of THE UHF spectrum below 1 GHz make it a very attractive band for providing coverage in rural areas, as well as in-building coverage. The amount of spectrum in question (470-862 MHz) means that there should be ample spectrum to accommodate both terrestrial TV and new services such as mobile broadband.

The GSMA believes at least 100MHz of digital dividend spectrum (ideally an allocation of 2 x 20 MHz per operator) can be freed for mobile services without impacting future capacity needs for broadcast TV services, as digital TV is between five and ten times more spectrally efficient than analogue. From a mobile network perspective, the excellent propagation characteristics of UHF spectrum mean that fewer base stations are required, making it much cheaper to provide mobile broadband coverage than at higher frequencies. Networks can therefore be rolled out and services delivered to consumers more quickly and cost-effectively.

The GSMA would particularly like to comment on the issue of new services that might be available in the 470-862MHz bands. The GSMA believes that there is sufficient spectrum for South Africa to make around 100MHz available for mobile broadband. This represents around a quarter of the spectrum available in the digital dividend band at 470-862MHz and will lead to the greatest possible benefit for South African citizens and allow them to enjoy much greater choice of television content, and to benefit from greater broadband penetration.

### **NEEDS OF DIGITAL TV**

ICASA has recognised that the appetite for Digital TV in South Africa require three digital multiplexes to be provided for this service. This recognises that between five

and ten times as many channels can be offered through digital transition as are possible through analogue transition using the same spectrum.

It should also be recognised that offering three digital TV multiplexes in South Africa will allow the South Africans to benefit from a much larger allocation to mobile services than is currently proposed. France, for example, under the 'France Numerique 2012' plan sponsored by the Prime Minister's office, plans to offer 11 DTT multiplexes to its 65 million inhabitants. Moreover, France's digital dividend plans still include a 72MHz allocation to mobile and a substantial spectrum allocation for mobile TV.

It is thus possible for the South African administration to do substantially more with the digital dividend than the current proposal allows for. It would appear that South Africa should be able to offer these three multiplexes in substantially less spectrum. The GSMA would suggest that South Africa ensure that it assigns multiplexes from the bottom of the band (starting at 470 MHz), and leave the top of the band (from above 698 MHz) clear. This would then give South Africa the flexibility to decide at a future date on the use of this spectrum.

## **AFRICA'S OPPORTUNITY FOR THE DIGITAL DIVIDEND**

While WRC-07 allocated the band 790-862MHz to mobile, several African administrations have subsequently concluded that they may be able to find greater benefit from the digital dividend by making more than 72 MHz available. The presence of CDMA 800 in the band in Africa, along with the fact that terrestrial broadcast needs can be catered for in the bottom of the digital dividend band starting at 470MHz, has led to a belief that better options exist.

This belief has led to certain African administrations starting to look at use of the band 698-806MHz, which will be used in Region 2 and large parts of Region 3 such as India and China, as the band most likely to create the maximum benefit when allocated to mobile. The larger size of this band – it will allow 2 x50MHz of spectrum rather than 2 x 30MHz - coupled with the fact that its adoption in Regions 2 and 3 will create the same economies of scale that exist in the band 790-862MHz have led to this conclusion.

South Africa should also consider the possibility of allowing greater competition in rural broadband provision by following the 698-806MHz path.

## **SOCIAL BENEFITS**

Policy makers globally have identified widespread internet access as a critical tool in social development; it has an essential role to play in improving health, wealth, education and social mobility and bridging the digital divide between rural and urban areas. More widespread roll-out of mobile broadband will continue to bridge the digital divide between rural and urban areas and allow more South African citizens to fully engage with services such as e-government, as well as enhancing inclusion, quality of life, community ethos, cultural understanding, education of citizens and informed democracy. With a harmonised plan using either band as mentioned above, economies of scale will also mean lower costs for consumers. Environmental benefits will also ensue from deploying mobile broadband in the UHF band as significantly fewer base stations will be required.

## **TIMEFRAME FOR MAKING AVAILABLE RIGHTS OF USE FOR DIGITAL DIVIDEND SPECTRUM**

Analogue switch-off is already in progress and spectrum reallocation decisions are being made. In the US, spectrum has already been auctioned and many other administrations around the world have confirmed their intentions for the UHF frequency bands. It is thus timely to make firm decisions regarding an allocation to mobile and other services in the digital dividend spectrum at 470-862MHz.

The GSMA believes that digital dividend spectrum is ideal for the deployment of the newest generation of mobile broadband services - Long Term Evolution (LTE). Mobile internet access via these technologies will enable a multitude of new and innovative services, including government, health, education and entertainment services. A 100MHz allocation of digital dividend spectrum will allow these to be delivered widely and cost-effectively in rural areas of South Africa, just as they will be in urban areas.

In order to ensure that citizens of South Africa can derive the maximum benefit from mobile broadband, and that the country can maintain international competitiveness, the Authority must ensure that digital migration and analogue switchover are driven in a timely manner as smoothly and efficiently as possible. Analogue broadcasters must not be allowed to halt progress through stalling this migration process.

Although analogue switchover in South Africa has been pushed back, the sooner mobile operators have certainty on the issue, the sooner they can confirm their network investment plans. This will ensure that South African consumers can benefit from new services as quickly as possible.

Ideally, a minimum of 100MHz of harmonised digital dividend spectrum would be allocated to deliver mobile broadband services. This would be sufficient to license larger frequency channels, which would deliver higher data rates and support several operators in the South African market, ensuring vigorous competition. Each operator needs a minimum of 2 x 10 MHz to provide an efficient LTE service, and an ideal allocation of 2 x 20 MHz in the middle term to cope with capacity growth.

## **JOINT SPECTRUM ADVISORY COMMITTEE**

The UHF frequencies at 470-862MHz can, as a result of the transition from analogue to digital TV, be used to benefit South Africans by a number of different applications including broadband, public safety and broadcast services.

The current make up of the proposed the Authority's Joint Spectrum Advisory Committee will focus purely on broadcast interests. This bias will not best serve the interest of South Africans in ensuring the digital dividend spectrum is rapidly made available for other services. The Committee must also serve to monitor the efforts of the broadcast community and ensure that best efforts are being made to carry out digital migration. Members of the communications and other sectors must also have a voice on the committee to ensure that this is done.

During the dual illumination phase, it would be efficient and beneficial for mobile broadband to carry out some limited piloting in the band. This can be accommodated after constructive consultation with the various broadcast partners and the joint advisory committee is the ideal for a in which to ensure constructive collaboration is ensured.

A collaborative approach between the mobile broadband and broadcast communities will be the best way to ensure that the broadcast community are aware of the long lead times involved in rolling out mobile networks, and that the broadcast community are satisfied with the needs of the mobile community and vice versa.

## **CONCLUSION**

South Africa's progress to date towards dividing the digital dividend spectrum at 470-862MHz between broadband, broadcast and other services is to be applauded. The allocation of this spectrum will play a vital role in how South Africans are able to receive broadband, public safety and broadcast services for years to come.

It is of significant importance to the economic and social wellbeing of South Africans that this spectrum be used to the absolute maximum of its efficiency. An equitable split between mobile broadband, broadcasting and other services will see the band provide most benefit to South Africans and wherever possible the Authority must strive to ensure that existing services continue while new services are brought in to the benefit of the South African consumer.

The GSMA believes that the valuable resource of spectrum in the band 470 to 862 MHz, should be used efficiently, and recommends that the requirement for broadcasters needs to be carefully evaluated in the light of international experience.

## **ABOUT THE GSMA**

Founded in 1987, the GSMA is the global trade association of the mobile industry, representing more than 750 GSM and 3G mobile phone operators across 218 countries and territories of the world. In addition, more than 180 manufacturers and suppliers support the Association's initiatives as associate members. The primary goals of the GSMA are to ensure that mobile phones and wireless services work globally and are easily accessible, enhancing their value to individual customers and national economies, while creating new business opportunities for operators and their suppliers. The Association's members represent more than 3.7 billion GSM and 3G connections – nearly 90% of the world's mobile phone connections.

The GSMA plays a pivotal role in the development of the GSM platform and the global wireless industry. Much of the GSMA's work is focused on two areas: Emerging Services and Developing Markets. The GSMA helps its members develop and launch new services, ranging from mobile instant messaging to video sharing to mobile Internet access, which will work across networks and across national boundaries. At the same time, the GSMA is heavily engaged in the industry's push to extend basic voice, text and broadband access services to more people and assisting Administrations in developing communications infrastructure in their countries.

More information about the digital dividend is available on our website at: [www.gsmworld.com/digitaldividend](http://www.gsmworld.com/digitaldividend)