



**Response to : “Draft Strategy for Switchover from
Analogue to Digital Broadcasting of Radio and Television
Programmes in the Republic of Serbia” - May 2009**

OVERVIEW

The GSM Association welcomes the opportunity to respond to the consultation of the Ministry of Telecommunications and Information Society of the Republic of Serbia on the principles and strategy for the switchover from analogue to digital broadcasting. This response document should be read in conjunction with the GSMA's previous submission¹.

The GSMA believes that allocating at least 72 MHz (790-862 MHz) from a total of nearly 400 MHz (470 to 862 MHz), will lead to the optimum outcome for Serbian consumers and citizens. This will align Serbia with a growing number of European countries that are moving towards allocating these bands for new services such as mobile broadband. It will also align Serbia with the likely outcome of the current European Commission work, and the RSPG calling for the Commission to act swiftly in helping to coordinate access to the 800 MHz band for non-broadcast services such as mobile broadband, and this was endorsed by national regulators (ERG²).

Indeed since the GSMA's last response on this issue (in February), we have seen Germany and Spain both commit to clearing channels 61 – 69, as well as the draft RSPG opinion (which is currently out for consultation). We have also seen Greece announce (May 21st) it is undertaking a technical study, with international experts, to examine the broadcasting frequency map of this band. The intention being to see what it is possible to offer consumers of TV services, if channels 61 – 69 are part of a digital dividend³.

A number of countries have stated that they will make this spectrum available for mobile broadband, including: France, Sweden, Finland, UK, Germany, Spain and Switzerland. Some are able to offer nearly 50 TV channels (UK currently has 48, Germany 42) and still have a digital dividend. Some countries intend to offer even more channels , after analogue TV switch off, for example France with 11 national multiplexes (this could offer around 100 standard definition channels).

The GSMA believes that this is clear evidence that Serbia could offer the existing number of TV channels envisaged, and still clear the bands that the European Community has identified.

¹ GSMA Response to “Basic Principles of the Strategy for Switchover from Analogue to Digital Broadcasting of Radio and Television Programmes in the Republic of Serbia” – February 2009

² http://www.erg.eu.int/documents/docs/index_en.htm

³ President EETT's statement in opening session <http://www.eett.gr/conference2009/html/programme-eng.htm>

The GSMA is concerned that by not addressing this issue now, Serbia will find that at a future date, that it has to go back and replan its digital TV network to clear channels 61 – 69. This will either be because this is a condition of future discussions on closer EU cooperation (or membership), or because all its neighbours intend to use these channels for mobile services. The cost and complexity of clearing these bands, post analogue TV switch-off, will be much greater and more complex, than if the decision is made now. Indeed some of the subsidies discussed in Section 5, may need to be paid twice in such a scenario (if antenna repointing or replacing is needed, or vulnerable consumers need help in retuning their set top boxes).

This issue of a band clearance timetable was also discussed at the ITU Regional Ministerial Conference in Belgrade⁴ (at which the GSMA and EBU were on the discussion panel). All agreed that clarity was needed now on the issue of clearing channels 61 – 69, and that to find at some latter date this was required, would not be in the interests of broadcasters, mobile operators, or consumers.

The GSMA is also concerned that no consideration seems to have been made of the economic demand for terrestrial TV services, compared to other services such as mobile broadband. Many economic studies have been undertaken, that show that once the core demand for such services is satisfied, the benefit of awarding more spectrum becomes ever smaller. Allocation of digital dividend band to mobile services shows opportunities for growth – of the economy and jobs. This means that clearing this band of broadcasting will have a negligible effect on broadcasting, but generate huge benefits to consumers. This does not seem to be addressed here. The assumption seems to be that the whole band should be awarded to broadcasting, and the consideration of potential new jobs and economic growth that mobile will deliver is not considered. There are of course also social benefits of increased broadband penetration that should be considered. Broadband promoted plurality of views⁵ and allows for much lower cost distribution of locally produced video content.

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 billion GSM and 3G connections - over 86% 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.

GSM is an evolving wireless communications standard that already offers an extensive and feature-rich 'family' of voice and data services. The GSM family of technologies consists of today's GSM, General Packet Radio Service ([GPRS](#)), Enhanced Data rates for GSM Evolution ([EDGE](#)) and third generation GSM services ([3GSM](#)) based on W-CDMA and HSDPA access technologies. Together with LTE (Long Term Evolution), these technologies underpin the GSM platform.

⁴ 27th – 29th April, hosted by the Ministry

⁵ the use of broadband was regarded as a key factor in helping Senator Obama win the Democratic nomination and be elected President (for organising his campaign and raising funds).

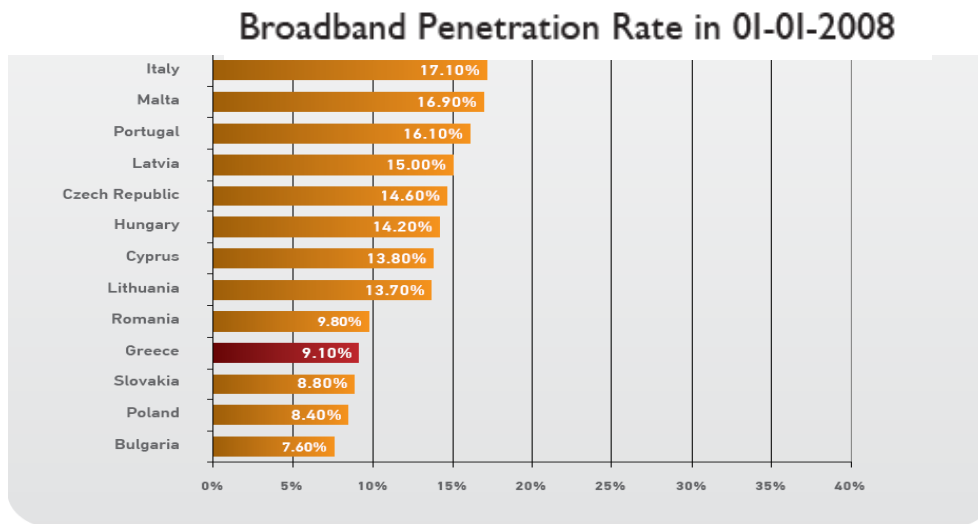
The [GSM Association's Board](#) comprises top-level representatives of some of the world's leading mobile operators, such as AT&T, Bharti Airtel, China Mobile, MTN Group, Orange, Orascom and Vodafone.

Discussion

Economic case for Mobile

There are many economic studies that have been done that show that the impact on broadcasting of awarding the Digital Dividend band to new and innovative services is quite small, compared to the benefits that they bring to consumers in terms of jobs and economic well being. Such studies also highlight that these benefits derive mainly from increased broadband penetration (via mobile broadband). It is well known that the internet also offers social benefits by ensuring citizens are part of the growing internet community, where debate, politics, and the arts can flourish. This was discussed in our previous response and the GSMA does not want to repeat the arguments it has already made.

However the table below shows how broadband penetration is expected to grow. According to RATEL, broadband penetration in the year 2007 is less than 8%. This is far less than many of her neighbours. Unless some action is taken now to help boost broadband penetration Serbia, this will only get worse – if her neighbours allocate the Digital Dividend and Serbia does not. As can be seen in Annex 1, the McKinsey report makes a direct link between jobs and broadband penetration of 0.8 – 1.3%. The low penetration of broadband in Serbia suggests that she stands to gain the most from increased broadband penetration.



Source: 13th Report of the European Commission

Economic case for Broadcasting

There does not appear to have been any analysis done that shows if there is a real economic demand for the number of broadcasting services that are being proposed. Numerous studies have shown only a marginal impact on services if the digital dividend (channels 61 – 69) are awarded to other services such as mobile. For example in the Europe Economics study on Ireland (see Annex 1), shows a loss of 8% to broadcasting (economic benefit), but a net gain from mobile of 60% over all. In Ireland the benefit to broadcasting alone of all the spectrum is just over €2bn. By awarding at least the digital dividend band to mobile, adds over €1.6bn ie **€3.6 bn in total**. This more than offsets the small loss to broadcasting. It must be remembered that this is not just money, but peoples' jobs and livelihoods.

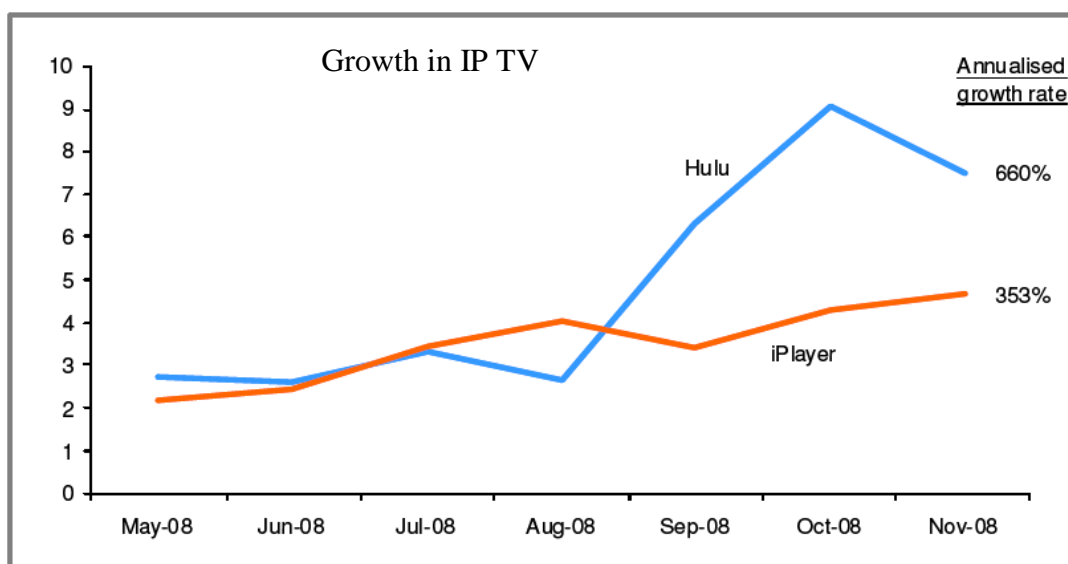
The GSMA believes that this result would be replicated in Serbia, that is that the impact on broadcasting would be small.

Demand for Broadcasting

The GSMA also believes that some form of demand analysis should also be done to consider if there is real demand for such a large number of terrestrial TV services in Serbia. The proposal (in table 3.3) appears to have between 6 and 8 multiplexes (mux) in each distribution zone. We have seen at the recent ITU conference in Belgrade in that in Albania they are able to offer up to 10 standard definition channels on a mux now (with existing digital TV set top boxes). That implies that with the advent of DVB-T2 and MPEG 4 enhancements, that it should be possible to offer between 60 and 80 SD channels in each distribution zone (and possibly more). There has been no analysis of if the existing or any potential new broadcasters would be able to fill such a large amount of channels.

In a study commissioned by the GSMA by Human Capital⁶ concludes that the commercial model underpinning the free to air broadcast model is changing, and this threatens the future viability of smaller channels. It also notes the rapid growth in internet based television. There is no mention of this in the consultation document. It seems almost certain that internet based TV (which required broadband) will become a very important mechanism for delivering broadcast content in the near future.

The growth in this service is shown below.

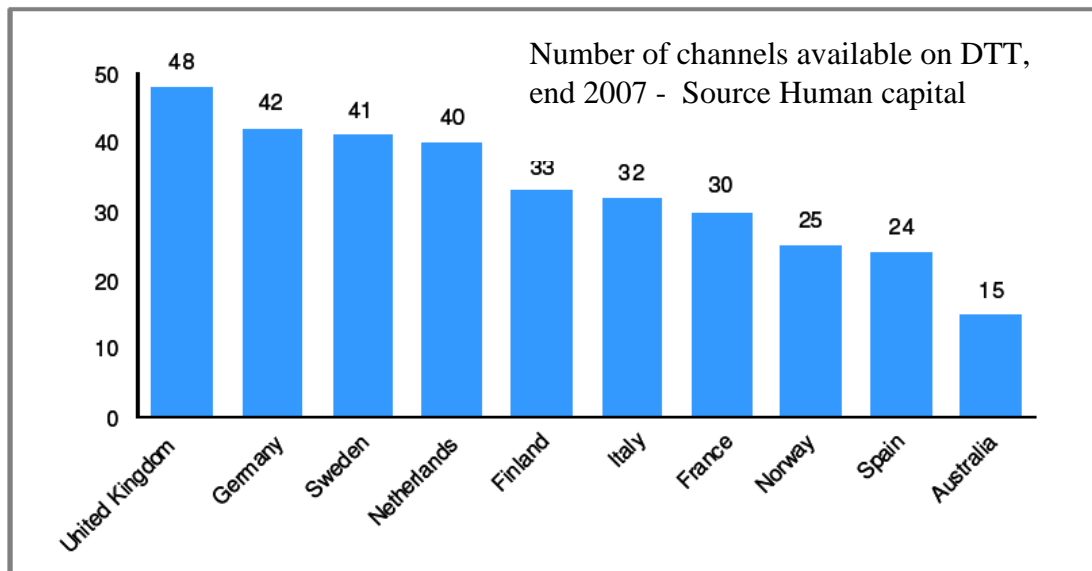


source: Human Capital

Spectrum Efficiency

In a number of markets it has proven possible to award up to 11 muxes and regional programming, and still have a digital dividend using channels 61 – 69 (for example in France). Even during the transition to digital TV, the UK is able to offer 48 channels. Germany is able to offer 42 channels using DTT.

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This would seem to suggest that there is sufficient capacity to allow up to 100 TV channels and still have a digital dividend in channels 61 – 69. Of course the larger the number of TV channels (muxes) required, the more difficult such a plan is to implement. It may for example necessitate the use of low power repeaters. However the table above shows that in the UK, Germany, Sweden, and France, this is possible in a relatively easy way for up to 50 TV channels (6 muxes), and have a digital dividend (and still maintain very high geographic coverage). Annex 2 includes more detail on the intentions of various countries with regards to the number of muxes they intend to deploy.

The GSMA would suggest that an independent study be made (as has been done in Greece by the Hellenic Post and Telecommunications Regulator- EETT) to examine other possible frequency plans. That is frequency plans that allow for the potential to allow new and innovative services such as mobile broadband to use channels 61 – 69. The GSMA understands that this could be covered in the draft action plan, item 10.

Why should this be addressed now

It may be believed that it might be better to wait and see how things develop in the market for mobile and broadcasting, before making any firm decisions on a digital dividend. However the GSMA does not believe this is the best course of action. Indeed at the recent ITU conference (hosted by the Ministry in Belgrade) this was one of the items debated by a panel that included the GSMA and the EBU (European Broadcasting Union). It was clear that all parties agreed that retro-fitting such a plan was not the best way to proceed. It will involve extra costs and complexity (perhaps in consumers having aerials repointed, or help in retuning their set top boxes). It would not be welcomed by consumers who will have just gone through a process in the original analogue switch-off (ASO) process. It will also involve more costs.

One possibility is to define channels 61-69 as a separate multiplex, and hold this back to await market developments. The current frequency plan in table 3.3 scatters these channels over almost all distribution zones. This would mean that if this plan were adopted, virtually all Serbian terrestrial TV viewers would be involved in a post ASO retuning process.

Developments in other countries

It can be seen that there is a growing momentum behind the allocation of 790 – 862 MHz in Europe for new and innovative services, such as mobile broadband. The countries committed to clearing the band include, Germany, France, UK, Finland, Sweden, Switzerland, and most recently Spain. Other countries are consulting on this issue (for example Ireland who's consultation recommends clearing the band). Many other countries in Eastern Europe are actively looking at this option and some are very likely to make firm decisions shortly. The only country that is likely to stand apart from this process for the moment appears to be Italy. This would leave Serbia isolated with regards to her neighbours, who are likely to want to clear these channels of broadcasting in the next few years. Of course Serbia has the right under international treaty (GE06) to use these channels for broadcasting digital TV. But the pressure will grow for some accommodation to be reached.

There is also an important stream of spectrum harmonisation work going on within the EU. The Commission has commenced a consultation process with consultants who have held public workshops to help develop a common roadmap⁷. The public presentation of the study is due in September 2009. This will examine, amongst other things, the relative demand of spectrum for broadcasting and other services. The EU has also recently published a draft RSPG opinion on the Digital Dividend⁸. The draft opinion calls on the Commission to develop a common framework work consisting of :

- Developing technical elements such as band plans (which is underway in CEPT under mandate from the Commission now)
- Encouraging Member States to make the 800 MHz spectrum available
- Encouraging Member States to enter into frequency coordination agreements (and assisting them with other non Member States)

Whilst the current view is that this should be non mandatory, it is possible that could change, as the number of countries deciding to make the spectrum available increases. At some point, there may be enough countries that support such a move, to overcome any veto power of the remaining countries (that only wish to implement broadcasting).

Whether clearance of the band is mandatory or not under EU rules, the fact is that it is likely to be seen as a desirable policy to have followed, for those countries that wish to have closer links with the EU.

⁷http://www.analysismason.com/EC_digital_dividend_study

⁸http://rspg.groups.eu.int/consultations/index_en.htm

Conclusions

By making spectrum available in the UHF band along the lines being developed in the CEPT (790 – 862 MHz) the optimum outcome for Serbian citizens will be realised. It will also encourage more investment in mobile broadband infrastructure. This will allow Serbian consumers to better participate in the “knowledge based economy” that will help secure jobs and maintain international competitiveness, as well as helping to promote rural sustainability.

The GSMA believes that a new frequency plan should be developed in which channels 61 to 69 are in a separate “multiplex”, that is held back until detailed demand analysis can be carried out. This would then make it relatively straight forward to use these channels for new and innovative services such as mobile broadband (subject to international coordination with Serbia’s neighbours).

The likelihood is that Serbia will at some point want to have these bands available for mobile broadband. If that option is not built into the frequency plan now, then it will only impose extra costs and inconvenience on Serbian consumers when the band needs to be replanned following analogue TV switch-off.

For questions regarding this response please contact:

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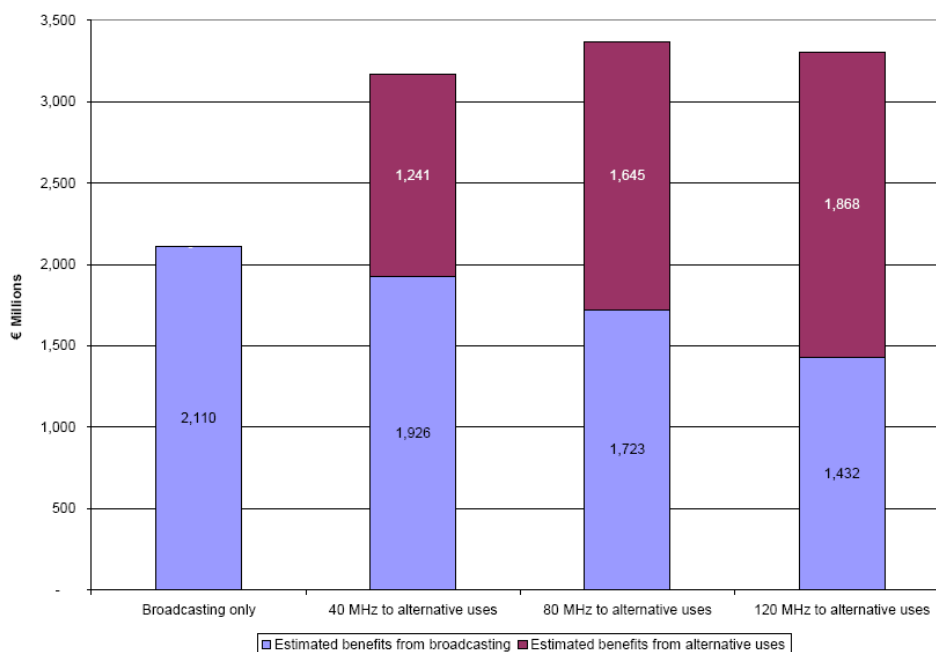
rercole@gsm.org

You can see more information about the Digital Dividend on our web site at:

<http://www.gsmworld.com/our-work/public-policy/spectrum/digital-dividend/index.htm>

Annex 1 - The Key Economic Studies:

1) Europe Economics⁹: How can Ireland best benefit from DD (October 2009)



The analysis shows the maximum combined value (broadcasting and mobile) is between 80 and 120 MHz in Ireland. It goes from € 2.11 billion for broadcasting alone to €3.3 billion for mobile with 120 MHz of Digital Dividend spectrum.

2) Analysis Masons : March 08 commissioned by ARCEP (France¹⁰)

Key findings of the report include:

Allocating a proportion of the released spectrum for mobile broadband services adds greater value to the economy than if this band were allocated exclusively to digital TV services. In fact, a scenario that would 'share' the digital dividend between both electronic communications and audiovisual industries would add over €25 billion more to the French economy between the years 2012 and 2024 than allocating the digital dividend exclusively to the digital TV industry.

Mobile broadband services will support political goals of 'digital inclusion'. Expanding mobile broadband access – especially in areas that will be underserved by fibre – will be most economically productive, and will significantly reduce the digital divide. Allocation of spectrum to mobile broadband will support the French government's aim of ensuring 100% of the French population has access to fixed/mobile broadband internet by the year 2012.

⁹ <http://www.comreg.ie/fileupload/publications/CP50e.pdf>

¹⁰

[http://www.analysismason.com/PageFiles/4324/Valuation%20of%20the%20digital%20dividend%20i%20France%20\(English%20Version\).pdf](http://www.analysismason.com/PageFiles/4324/Valuation%20of%20the%20digital%20dividend%20i%20France%20(English%20Version).pdf)

3) Spectrum Value Partners¹¹: March 08, Getting the Most out of the Digital Dividend

Key findings are:

Allocating at least some UHF spectrum to mobile operators would generate between €63 billion and €165 billion in net present value (NPV). This is in addition to the estimated €2.5-5 trillion in NPV that mobile generates for the European economy without any UHF spectrum.

Although results differ from country to country and between scenarios, allocating at least 92 MHz of UHF spectrum to mobile operators would be most likely to maximise additional value for the European economy as a whole.

□ Allocating considerably more than 92 MHz to mobile operators could also be justified under a range of plausible demand scenarios.

4) SCF¹² The Mobile Provide: Economic Impacts of Alternative Uses of the Digital Dividend May – September 2007

The author of the report stated that “If the mobile industry is allowed to use the spectrum it needs, it could boost Europe’s GDP by as much as 0.6% per year by 2020 generating thousands of jobs throughout the EU. This is because mobile communication brings huge productivity gains allowing all of Europe’s businesses to work more efficiently”.

5) McKinsey and Co “Mobile Broadband for the masses” – Feb. 2009¹³

As the long-awaited promise of mobile broadband finally comes within reach, a new role for the technology is emerging that takes a step beyond company balance sheets and business strategies. Bringing broadband penetration levels in emerging markets to today’s Western European levels could potentially add USD 300-420 billion in GDP and generate 10-14 million jobs. Mobile broadband is uniquely positioned to stimulate economic growth and welfare in areas that lack adequate fixed-line broadband infrastructures.

Spectrum availability: Low-band spectrum can drastically reduce the capital expenditures operators have to make for base stations, especially in rural areas, due to the greater coverage that lower spectrum provides. Compared to the 2.1 GHz spectrum, the use of the 700 MHz spectrum can decrease the required number of base stations by up to 65 percent while also improving the quality of indoor coverage.

¹¹ <http://www.spectrumstrategy.com/Pages/GB/perspectives/Spectrum-Getting-the-most-out-of-the-digital-dividend-2008.pdf>

¹² www.digitaldividend.eu

¹³ http://gsmworld.com/documents/McKinsey_Mobile_Broadband_for_the_Masses.pdf

Potential economic impact of increased broadband penetration

ABSOLUTE AND RELATIVE INCREASE IN EACH REGION*

TOP-DOWN ESTIMATES

	GDP USD billions	Difference Percent	Jobs Millions
Asia	150 - 180	+0.8 - 1.0	6.6 - 8.0
Africa	40 - 90	+0.7 - 1.6	1.3 - 3.1
Central and Eastern Europe	60 - 80	+0.8 - 1.3	0.9 - 1.3
Latin America	50 - 70	+0.8 - 1.4	1.1 - 1.7
Total	300 - 420	+0.8 - 1.2	9.9 - 14.1

Annex 2

The table below provides information on the number of layers received by each country at RRC-06 in the UHF band and (where available) the latest information on the number of multiplexes planned in each country.

Country	Layers	Current Plans
Austria	7	Expected to have 6 in total
Belgium	7	Expected to have 8 in total in Flanders region
Czech Republic	7	Expected to have 4 in total
Denmark	7	At least 5
Finland	7	4 Multiplexes were operating in Oct 2008 but expected to have 6 multiplexes for DTT, 2 for DTT local and 2 for HDTV DTT.
France	8	Currently 7 multiplexes (5 SDTV plus 1 HDTV and 1 mobile TV) but there are plans to extend this to 13 through bilateral negotiations. These will comprise 11 DVB-T networks (95% population coverage) and 2 DVB-H networks (70% population)
Germany	7	
Hungary	7	5 multiplexes
Ireland	8	Expected to have 6 in total.
Italy	8	8 Multiplexes were operating in Oct 2008 but no indication of expected number in total after switch over
Latvia	7	
Lithuania	8	
The Netherlands	7	5 multiplexes
Norway	7	
Portugal	7	Expected to have 6 multiplexes in total
Romania		Expected to have 8 multiplexes in total
Slovakia	7	
Slovenia	7	
Spain	12	5 Multiplexes were operating in Oct 2008 but no indication of expected number in total after switch over
Sweden	7	Currently 6 multiplexes have been licensed. Expected to have 7 in total.
Switzerland	7	6 multiplex for DVB-T in some regions. Also DVB-H
UK	8	6 - allows DTT to match analogue coverage and to expand capacity to around 10 times that of analogue

Note: The information on expected total multiplexes is mainly obtained from EPRA Information paper on status of digital television. 28th EPRA Meeting, Dublin, 29 – 31 October 2008. Document EPRA/2008/12.