

APWPT comments
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VIA Electronic Mail

European Commission

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RE: APWPT's Comments on the EU Consultation Document "Transforming the digital dividend opportunity into social benefits and economic growth in Europe (10 July 2009)"

APWPT, the Association of Professional Wireless Production Technology (www.apwpt.org) is pleased to submit its comments in the above-mentioned consultation proceeding. As an international non-profit organisation APWPT, located in Germany, promotes on an international level the efficient and demand-driven provision and use of production frequencies for programme making and special event productions ("PMSE") as well as safeguarding such production frequencies for the users. The APWPT directly and indirectly represents far over 25,000 members of the PMSE community in Europe and beyond. Members of APWPT include PMSE organisations, users and manufacturers.

On a daily basis this sector is responsible for the production of content that has received world-wide acclaim and continues to attract a global audience. A vast array of organisations are reliant on radio spectrum for the production of content for performing arts, broadcasting, news gathering, independent film and TV production, corporate events, concerts, night venues, sports events, churches, etc. In addition, other sectors that utilise the current UHF spectrum include the Health Service, Education, Local Government, Political Programming and Conferencing.

In addition, these technologies play a vital role in helping to improve security and safety levels within the Entertainment Industry and other sectors. Their benefits include improving the management of electrical safety, the reduction of noise levels, the development of safety in communications and reducing trip hazards as well as providing an essential tool for the security orientated services.

Its wireless equipment and the spectrum it operates on are crucial to the European Entertainment Industry.

The PMSE sector is critical to the production of content for live entertainment of all genres. This sector extensively utilises wireless equipment such as wireless microphones, wireless in-ear monitor systems, wireless talk back systems and wireless instrument systems. For over fifty years wireless products have been used in the entertainment industry. In the past thirty years there have been vast improvements in production value and safety levels as a result of advances in wireless technology.

From its initiation APWPT has been focusing on how to integrate new wireless technologies services seamlessly and without interference into the existing spectrum.

There are more than 630.000 wireless production tools in use in Germany, more than 6 million in Western Europe, as stated in the Study 2008 of the reputable independent Professional Audio Manufacturers Alliance – PAMA.

The comments below focus on PMSE-related issues that the Commission addresses in the consultation document, explaining, in particular, how PMSE is especially affected by the digital dividend and what needs to be done to remedy the situation.

The numbers refer to the paragraphs in the consultation document.

1. Supporting PMSE Benefits the Entire EU Economy and Recovery

APWPT agrees that it is important that the digital dividend is a unique opportunity and that the EC should promote that all EU citizens gain access to state-of-the-art broadband services. To achieve this, the first step must be to give all those access to broadband services that do not have one at the moment. Otherwise all the other government activities will not have the desired effect.

E-government, E-health, E-learning are some of the keywords. Wireless broadband has to close first the remaining gaps before expanding into other areas.

Precious limited resources such as new frequencies for wireless broadband must especially be allocated to benefit citizens in remote areas and to fill "White Spaces" on the broadband maps.

The Commission concentrates all its current efforts on the use of the digital dividend for the further development of mobile broadband and digital television focusing on the transmission level. This approach disregards that there must be sufficient content that need to be produced. This is where PMSE comes into play: a. theatres, artists, musicians and producers in the EU must rely on PMSE to produce this content. The results of their creativity and their work are the basis for what will be transmitted digital.

The APWPT applauds the EC for being a main driver for developing a world-class broadband infrastructure for the next generation. However, it needs also to be mindful that the tools continue to be available to produce the content. This must have priority before deciding on mobile broadband and digital television.

The APWPT and its members welcome the EU initiative for the reliable roadmap for short and long term objectives for the future spectrum use. Such a roadmap is only significant for producers of content which later is distributed through the various wireless transmission paths to the consumers, but also for the operation wireless production equipment. The goal must be to allow both services to fulfil the expectations of their users and leave room for further developments regarding quality and availability of these services.

2. What has been achieved so far?

Contents are usually produced with the support of wireless production equipment that needs sufficient spectrum for its operation. Consequently PMSE equipment should enjoy the same regulatory status as mobile and broadcasting services. I

The manifold wireless production services need spectrum bands in which they enjoy the status of a primary user. One reason for this demand is that the density of the spectrum usage is increasing and the interference affecting services that do not come from a primary user is increasing as well. As a secondary user PMSE is not protected and has no rights.

In order to protect PMSE, there need to be certain spectrum bands in which wireless production services enjoy a primary status at least on the national level. Only then will the steadily increasing number of PMSE users have a reliable basis for future operations and investments. Only then will the manufacturers of PMSE equipment enjoy the confidence planning certainty for further research and development activities for higher spectrum density and higher production quality.

An EU-wide coordinated concept for the spectrum band for wireless production equipment will have positive effects on the economy of scale for users. Its users need bands they can use "across the border" for PMSE equipment. Apart from coordinating this band, the EU also should safeguard that the access to this spectrum is coordinated as well.

Extensive consultations with main parties involved

Besides contacting members of the EU Parliament from our side there has been so far only one consultation to secondary users of spectrum in one big session coordinated by a consultant. We are confident that the Commission will focus with this consultation also on those services that are the base for the bigger ones and their distribution network.

Studies of the required spectrum for wireless production tools are available from the German Network Agency (Report on the frequency resource requirements of Professional Wireless Microphone Systems in urban areas with respect to changing broadcast allocation concepts, Oct 29, 2008).

Technical preparation under the auspices of the CEPT

It is important also to take care of those services that are at the front end of the production: They provide the content which is later distributed by the two systems mentioned above: the traditionally high power broadcasting networks and the bidirectional low/medium power networks.

This topic was already discussed during several sessions and also documented on the European Commission's Hearing in Brussels that was held on March 6, 2009 .

Prior to meeting on March 6, 2009 we presented the following statements¹:

There are more than 6 Million of these devices in use in Western Europe (PAMA Study 2008). During the past ten years the number of wireless production tools has increased by more than 10 % every year.

The reasons for that increase in the use of wireless production tools are:

- The increase of cultural events in the European Union,
- The reliability of the Audio Quality and easy handling;
- The flexibility of use: change in the arrangement of a conference presentations can be facilitated right up until the very start of the event;
- The effect of rationalisation: when staging productions or in emergency newsgathering situations, there is often limited time or practical ability to lay our cables. Additionally, wireless equipment increases the degree of flexibility during changeovers offering considerable savings in time and cost

In the same paper we also gave statements how both services can coexist after a carefully planned transition time:

In order not to jeopardize wireless production technologies with all its associated economic, cultural and social benefits it is essential to:

- Identify alternative spectrum of the same quality and quantity as the spectrum currently in use,
- Set an acceptable transition period of minimum of five years for users to transfer their systems from the existing frequencies of operation to new ones. Please note that some potential frequency bands may need newly developed equipment, this equipment is currently not ready for market,
- Clarify the financial situation and investment plans of public finances institutions and theatres, as well as for private organisations (investment plans differ from 3-10, 20 years).

We kindly ask to thoroughly investigate and consider the implications of any change of use in the UHF band. We are asking to clarify and reassurance that wireless productions tools can continue be used in the future as successfully as they have been in the past.

For a better understanding and providing more details for specific future decisions we refer to the following comments:

[http://www.analysismason.com/PageFiles/11730/APWPT%20\(1\).pdf](http://www.analysismason.com/PageFiles/11730/APWPT%20(1).pdf)

and for more technical details:

[http://www.analysismason.com/PageFiles/11730/APWPT%20\(2\).pdf](http://www.analysismason.com/PageFiles/11730/APWPT%20(2).pdf)

¹ http://www.analysismason.com/PageFiles/11730/Microsoft%20Word%20-%20EC_stakeholder_event_Version1%20Mar-march%20-%20APWPT.pdf

wireless broadband) and traditional high power broadcasting networks. In its response to the Commission, the CEPT provided all the essential technical elements of such solutions and gave sufficient evidence that the interference management issues can be properly dealt with. This was an important step and a major contribution to the preparation of the policy initiative on which the Commission is now consulting.

APWPT's understanding is that currently there is not clear evidence that the new broadband services that enter the Digital Dividend bands will not interfere with the existing services that are operating below or above the dedicated spectrum 790 – 862 MHz. In all APWPT submission so far, we mentioned the effect which the expected unwanted radiation of RF (Radio Frequency) will have outside to that dedicated spectrum.

If this problem is not fixed properly millions of consumer will be affected, because DVB-T reception devices will be disturbed. The same interference can affect PMSE and wireless production services, provided that they are operating close to the lower end of the UHF range at 790 MHz.

The other point of possible interference caused by the planned wireless broadband services will be above their range limitation above 862 MHz. In the range of 863 – 865 MHz (EU class 1 harmonised band) numerous wireless hearing-aid systems are using spectrum that especially elderly people use for their TV or Radio listening devices so that they do not disturb their relatives or neighbours. Moreover, there are numerous consumer products like wireless audiophile headphones, wireless microphones, in-ear systems, wireless conference interpretation systems and wireless tour-guide systems for museum and city tours in use that could be negatively affected.

Given that the frequency range 863 – 865 MHz is a European widely harmonised spectrum; these units are in use EU-wide. It is essential that these users will enjoy the same protection as the TV services below 790 MHz as the origin for interference is caused by the same service.

APWPT disagrees with the statement made in the above-mentioned consultation document: that "interference management issues can be properly dealt with."

An insensitive handling of these technical interference issues will affect millions of users within the EU – this is why the EC should address this issue now.

Interference can also be a disturbance between two services using the same spectrum. One reason can be a lack of coordination and miscalculation of the transition time due to the lack of a proper roadmap. APWPT is concerned that this will happen to the new services, unless a new inquiry from the EU is launched immediately that will inform those that are affected first.

Granting sufficient transition time also means that there must be alternative spectrum for those who have to leave the current bands. The regulators/governments should provide fair and non-discriminatory financial support and other aids to smoothen the migration process.

PMSE producers and users have invested heavily in the equipment and its development. This is the main reasons why the users of wireless production technology must become co-primary user at least in certain spectrum bands.

Introducing more flexible spectrum management

framework for electronic communications services by the end of this year. This framework includes provisions to introduce greater flexibility in the use of spectrum, in order to adapt to

We welcome the Commission's goal for more flexible use of the spectrum which will, have a major impact on the European consumer demand. However, this flexible use also is in need on a reliable basis consisting of appropriate technical and political rules to make it work:

In particular, these rules must ensure that all users of wireless communication systems can operate their equipment without harmful interference. Only clear-cut rules can avoid harmful interference which would bring all the use of all affected bands to a standstill it must also be clear how these rules will work out in practice before bands are opened for new users.

In light of these developments, the Commission considers that all the necessary elements are now available to allow concrete proposals to be made on the way forward.

We agree that almost all necessary elements are now available – those not finally cleared, as mentioned above, have to be fixed before final decisions are done. This is a must.

3. How to move forward towards an EU roadmap

The EU roadmap is an approach the APWPT endorses as a tool to develop EU coordinated advanced services for those that currently use spectrum for wireless application and those that will gain access to it in the future.

For developing the EU roadmap ample lead-time should be allocated for the political discussion and for finalizing decision process within the member states as well as the process of implementing these decisions and the communication of those. It seems that so far the time consumption of this part of the process is underestimated.

Additional timelines for the roadmap are dictated by the developing time and transition/implementation processes for new technologies and services that have to be planned properly. If not done in a good manner the users of those devices and services will experience harmful interference and may lose confidence in the political and technical development.

Granting this process ample time is most important given that various public organisations and public users are involved as they have strict rules regarding their budget planning and spending. We currently experience a situation in which the missing of such a reliable roadmap causes a lack of planning security in the market.

As an example: the spectrum 790 – 862 is dedicated to mobile services, but the roll-out is not clear since:

- The preferred technology LTE is not yet available and even not finally specified as a standard by ETSI.
- No reliable tests nor planning of the expected interference can be done as the specification is not set nor are samples for testing available.
- The spectrum is still in use by PMSE equipment and no concrete alternatives have been made available so far.
- Today's investors for new wireless production tools cannot move forward with their investments as their new spectrum is not yet available.
- Public users have to allocate budgets for new systems, but they do not know which spectrum bands they will have available. Therefore, they cannot appropriately plan and dedicate the necessary investments (especially the installation costs are not clear).
- The only point that is clear so far is: in Germany the spectrum will have to be cleared until Dec 31st 2015. But it may be possible that the regulator already in 2012 will open some digital dividend bands in parts of the country for new services. This could happen as early as approximately two years from now. Only few public budgets can be allocated and appropriated that fast. To make it worse, most of the change transitions in these venues can only be done during the holiday season when there are no services running: theatre, musical, universities, education centres, multipurpose halls, conference centres, parliaments etc. All this requires careful planning and thought.

PMSE will only have sufficient planning certainty if it is upgraded to become primary / co-primary spectrum user. Only then PMSE will fully benefit from long term reliable planning and spectrum allocations.

An EU roadmap must offer sufficient flexibility

Flexibility in the use of spectrum is the main key for efficient operation in any field of services. Flexibility always will affect others in neighbouring bands.

The EU roadmap can be part to further integrate these activities, to allow same equipment for similar services in an EU wide coordinated spectrum.

4. Proposed elements for a roadmap

Consumers have high expectations regarding future developments of broadcasting services, be it more programmes, increased quality such as HDTV¹⁶, or mobile reception. A coordinated

In some EU member states it can be seen already and others will follow soon to increase their terrestrial services. Even more advanced compression standards will not be able to compensate the need of those services for more spectrum – increased quality like the mentioned HDTV will already eat up quite an amount.

The density of these primary services will increase and leave less space for those that have to produce the content using PMSE that takes a backseat as a secondary user. Especially urban centres will experience this situation first.

On top of this one can see the plan as mentioned under 4.2 to further expand the digital dividend which will again reduce the freely available spectrum – except if parts of this digital dividend are dedicated to wireless production tools. For high efficiency in the EU this spectrum should be in the same range all over Europe or even within Region 1.

- c. **Supporting research into "frequency agile" mobile communications systems.** Such systems could greatly simplify spectrum coordination, increase efficient use of spectrum, and allow for simpler transitional arrangements in the future. The development of such

More efficient use of spectrum requires advanced methods for its administration and use. All services should have access to the spectrum as long as existing services are not negatively affected. The industry is willing to develop these tools, but it can only be successful until the EU in their roadmap gives clear guidelines which services and their specifications are needed and when they are needed.

Financial support from public and private funds is required to develop these tools and to set minimum EU standards for these tools to make them accessible through various services. The direct support for this development must be given to universities and institutions as well as to the manufacturers who at least have the technical responsibility for its reliable operation.

4.3

band) on a neutral basis for electronic communications services. The RSPG further advises that the Commission make its final proposal regarding this band at the latest by 31 October 2009 in order to give sufficient time to stakeholders to plan investments and complete the necessary technical preparation before the actual availability of the band following analogue switch-off in 2012²⁴.

This suggested timeline means there will only be about two years to prepare for the switchover. In some areas the switchover may even happen earlier. APWPT endorses a coordinated approach, however it will cause numerous interference to existing services as already mentioned above.

4.4. Adopting a common position on the potential use of the "white spaces" as part of a possible extension of the digital dividend

Member States would be invited to cooperate with the Commission in examining whether there are grounds for opening up the "white spaces", or interleaved spectrum unused between broadcasting coverage areas, for use by cognitive radio equipment on the basis of a common set of technical requirements in Europe. If so, consideration could also be given to developing a coordinated approach to the regulatory treatment of usage rights for white spaces.

This is the practical step for the proposal mentioned under 4.c. To develop this common platform for future services research and development support needs to be established for an EU wide coordination of the standardisation.

4.5. Ensuring the continuity and further development of wireless microphone applications and other secondary uses of the UHF spectrum

The objective would be to determine the best strategy to ensure a "migration path" for current secondary users of the UHF spectrum (wireless microphones and similar applications). This work could include an examination at EU level including, if appropriate, a mandate from the European Commission to the CEPT. This work could lead to specific spectrum harmonisation measures, inside or outside the scope of the digital dividend, for such secondary uses in the future, in particular those of a mass market/consumer nature.

Wireless microphone applications need UHF spectrum for the majority of their services. The reasons for that are the physical rules of wave propagation. Only certain services can be shifted to the L-Band and ENG Band, but they will be limited in their use. Development for these devices is ongoing and will take ease some of the congestion in the UHF Band in the near future.

The ENG Band already is harmonised in 17 EU member states. The EU should support the harmonisation of the L-Band as well.

The equipment under development for these frequency ranges, L-Band and ENG Band will be more complex, must comply with different rules of handling and will be more expensive as the current UHF equipment. Primary status in these bands will restore confidence for long term use and return on investment for the manufacturers and users. Moreover, a EU- wide harmonisation, or even a harmonization throughout the Region 1, and a liberal policy to access that spectrum – as it applies in the ENG Band already – can make users change into this spectrum.

APWPT kindly requests that the European Commission endorses that (a) the national governments and regulators in the EU grant PMSE primary or co-primary status in the 'PMSE' frequency bands, and (b) the national governments and EU bodies work with the relevant ITU working groups and the WRC 2012 to grant PMSE primary or co-primary status.

SUMMARY:

These comments only give a snapshot of the issues affecting PMSE that the EU faces with the distribution of the Digital Dividend. The APWPT, as one of the main interlocutor for PMSE in this area, stands ready to discuss these issues with the EC in more detail and find mutually acceptable solutions.

Respectfully submitted,

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Annex:

Additional information on the APWPT

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Who we are?

APWPT is an international non-profit organisation, which is representing the needs of all user of the PMSE sector. Members of APWPT include PMSE organisations, users and manufacturers.

What do we do?

The PMSE sector is critical to the production of content for live entertainment of all genres. This sector extensively utilises wireless equipment such as Wireless Microphones, Wireless In-Ear Monitor Systems, Wireless Talk Back Systems and Wireless Instrument Systems.

For over fifty years wireless products have been used in the entertainment industry. In the past thirty years there have been vast improvements in production value and safety levels as a result of advances in wireless technology.

How do we do it?

The PMSE sector currently relies on the spectrum interleaved between existing TV broadcasts, to enable the use of Radio Microphones, In-Ear- Devices and other short-range wireless devices. This equipment is an essential component of the European Entertainment Industry. Due to their efficient use of spectrum, radio microphones (they do not cause harmful interference and engineers create very defined frequency plans) are hardly noticed.

Who benefits from our activities?

On a daily basis this sector is responsible for the production of content that has received world-wide acclaim and continues to attract a global audience. A vast array of organisations are reliant on radio spectrum for the production of content for **Performing Arts, Broadcasting, News Gathering, Independent Film and TV Production, Corporate Events, Concerts, Night Venues, Sports Events, Churches...** In addition, other sectors that utilise the current UHF spectrum include the Health Service, Education, Local Government, Political Programming and Conferencing.

In addition these technologies play a vital role in helping to improve security and safety levels within the Entertainment Industry and other sectors. Their benefits include improving the management of electrical safety, the reduction of noise levels, the development of safety in communications and reducing trip hazards as well as providing an essential tool for the security orientated services.

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