Opinion of the European Economic and Social Committee on the 'Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on “Transforming the digital dividend into social benefits and economic growth”'

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On 28 October 2009 the European Commission decided to consult the European Economic and Social Committee, under Article 262 of the Treaty establishing the European Community, on the

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on ‘Transforming the digital dividend into social benefits and economic growth’


The Section for Transport, Energy, Infrastructure and the Information Society, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 1 June 2010.

At its 464th plenary session, held on 14 and 15 July 2010 (meeting of 15 July 2010), the European Economic and Social Committee adopted the following opinion by 141 votes to 1 with 1 abstention.

1. Conclusions and recommendations

1.1 The EESC welcomes the Commission Communication on Transforming the digital dividend into social benefits and economic growth. This is a very important step forward in fulfilling one of the EU2020 objectives of a Smart, Sustainable and Inclusive growth, whereby the Digital Dividend will be an integral part of the Digital Agenda for Europe.

1.2 The EESC in fact supports the Commission in ensuring that the 2012 deadline for the freeing of the spectrum is kept by the Member States. The EESC understands that a few countries may have difficulties and realistic reasons for not keeping to such a deadline. However the non-conformance to the deadline should be based on valid reasons and the period after January 2012 for their compliance should be as short as possible.

1.3 The EESC recognises that the Digital Dividend, resultant from a very limited resource that is spectrum, could, provided that its use is properly defined and guaranteed, have significant economic and social benefits for Europe. These would further enhance the single European market and could furthermore increase economic, social and territorial cohesion, thus ensuring that some of the social aims advocated within the EU are reached.

1.4 The EESC also identifies this project, the flagship for the Digital Agenda, to also be a strong tool for the promotion of the benefits of the EU. In an era where EU scepticism is on the rise and where the people do not fully grasp the potential of a unified Europe, this can be a clear and tangible benefit for both individuals and enterprises. This project shall also enhance the level of consumer protection and the process should not result in unnecessary costs to the end user.

1.5 The EESC urges the Commission to initiate an integrated communication strategy which would show the motivation of changing from analogue to digital and the benefits derived there-from.

2. Introduction/Background Information

2.1 The switchover from analogue to digital terrestrial TV in Europe will free up highly valuable radio frequencies due do the greater efficiency of digital broadcasting transmission. This ‘digital dividend’ has great potential for the provision of a wide range of services.

2.2 It represents a unique opportunity for Europe to meet the growing demand for radio spectrum, particularly to provide wireless broadband to rural areas, thereby bridging the digital divide, and to stimulate the take-up of new wireless services. It can therefore contribute significantly to the goals of competitiveness and economic growth and satisfy some of the social, cultural and economic needs of European citizens.

2.3 The digital dividend spectrum will become available throughout Europe within a relatively short space of time, as all Member States should complete the switch-off of analogue TV by 2012 at the latest.

2.4 The Commission has recognised the importance of high-speed broadband infrastructure for many of the developments that are crucial to the transition to a knowledge-intensive, low-carbon digital economy. Already, the Economic Recovery Plan, which has been endorsed by the Council, has set a target of 100 % broadband coverage to be achieved between 2010 and 2013.
2.5 New opportunities for innovation will be created. The most obvious opportunities for innovation are in broadcasting, as the digital dividend offers large amounts of spectrum for broadcasters to develop their services. There will also be ample opportunities in service-oriented sectors, providing significant social benefits such as health care, e-learning or e-government, e-accessibility and in areas where small and medium-sized enterprises can take advantage of better access to the economy.

3. Economic and social benefits within the digital dividend

3.1 The potential economic impact will depend on the actual level of future demand for new services, which is difficult to quantify at this stage. Nevertheless, a recent Commission study estimates the potential benefit from EU coordination of the digital dividend spectrum as a whole, if achieved before 2015, to range between EUR 20 and 50 billion (over a 15 year period) compared to EU countries acting alone. This estimate takes into account the potential new applications, such as advanced terrestrial broadcasting and wireless broadband.

3.2 Harmonised conditions within the EU will benefit the technology industry, since most of the equipment used will be standardised and streamlined. Furthermore, the potential for innovation within the sector will increase substantially and will be more targeted. This is particularly beneficial for the industry especially the players that have been investing heavily in innovation.

3.3 The main social impact derived from freeing up the spectrum would be greater broadband access for all. Even today, rural areas are sometimes deprived of proper internet access. Through the digital dividend, internet could be accessible to all and internet services will be more widespread, thus consolidating even further the internal market. Since broadband will be available also in most rural areas, the EESC envisages that there shall be more scope for enterprises not to require to be within urban zones, consequently bringing about delocalisation of industry that till today still conglomerates in urban areas due to communication and logistic reasons. The impact of such delocalisation would be of possible more employment in rural areas and also environmental (since overpopulation within urban zones is not conducive to sustainable practices). However, the Committee reiterates its position maintaining in different opinions regarding the need for a universal broadband service for all citizens with accessibility measures for unimpeded access to disabled persons.

3.4 Customer choice will be enhanced, since there will be more choice of TV channels, together with premium quality services, at the same time as less spectrum is used. Furthermore, the potential of viewing TV content through mobile multimedia gives a new dimension to TV accessibility. Furthermore the digital dividend will bring about a considerable improvement in the quality of life of the users. The EESC points out that Member States should guarantee that consumers remain adequately protected in the course of the ASO and ensure that unnecessary expenses are not pushed on to the consumer.

3.5 An additional benefit derived from the digital dividend is demonstrating the potential and advantages of a single Union whose countries work on a same standard. In a period where EU scepticism is on the increase the digital dividend is another tangible benefit the whole of the EU would be enjoying.

4. Necessary considerations

4.1 The analogue TV switch-off and the subsequent digital TV switch-on will undoubtedly produce a much better use of spectrum. In fact, with digital TV, every Radio Frequency (RF) channel (8 MHz-wide) can broadcast on average five or six TV programmes. This means that after the complete transition to digital TV, the spectrum used for TV broadcasting purposes should drop to one fifth or one sixth of that previously needed. In countries where Single Frequency Networks (SFN) are introduced, the spectrum gain may even reach a factor of ten after an optimal roll-out of the various TV networks.

4.2 There is no doubt that the spectrum freed up is a precious resource, especially in countries where cable TV is barely developed and thus the radiofrequency spectrum is indeed a limited resource. This newly available spectrum can be optimally used for wireless broadband services, which are particularly precious for rural areas where there is no doubt that the absence of high-speed internet services is a cause of economic inertia and social exclusion. The Committee believes that these services will serve to deepen the economic, social and territorial cohesion of these areas.

4.3 The reason for the switch over from analogue to digital may not have been evidenced clearly in the past. The public may have the perception that such a switch over is purely for commercial gain of the TV operators, as there may be a cost to the change in the household equipment. Hence it is crucial that a proper communication strategy is prepared and implemented so that the real reason for this switch over is known.

4.4 It is crucial that all the Member States share a common band in order to allow a universal service all over the EU and to all European citizens. The optimal choice is the 800 MHz band, which is located in the UHF sub-band 790-862 MHz.

4.5 CEPT (European Conference of Postal and Telecommunications Administrations) is responsible for producing the technical specifications for the harmonisation of the 800 MHz band, in close cooperation with the various National Regulatory Authorities (NRAs), which are well aware of the current spectrum issues in their countries.

4.6 In order to open the 800 MHz band to wireless broadband communication, it is essential that Member States complete the ASO (Analogue Switch-off) procedure by a given date. It seems that the current deadline of 1 January 2012 will not be met by all member states; however it is essential that the one who do not make the ASO in time do so in a relatively short period within 2012.
4.7 Because of their critical financial situation, many TV operators that are currently forced to switch on digital TV transmitters in those Member States which are implementing the ASO are not able to purchase equipment that performs well (typically manufactured in the EU). In these difficult circumstances, they find themselves forced to purchase cheaper but also lower-performance and less reliable broadcasting equipment, typically manufactured in the Far East. As a result, this equipment could already be out of commission after only two or three years, thus forcing the broadcasters to once again purchase new broadcasting equipment (hopefully of higher reliability and performance).

4.8 Within the current economic scenario TV operators, particularly the smaller operators, may be struggling so as to finance the changing of the equipment due to the digital switch over. Hence the EESC believes that some form of pre-financing structures should be put in place so as to assist such SMEs in the adaptation process to the new technologies. Such assistance may not necessarily be in the form of grants, it may be linked to the availability of funds prior to the investment which shall then be returned over a feasible period, as in the case of loans. Furthermore guarantee schemes ought to be also targeted at assisting SMEs within the field.

4.9 The overall result may be poor TV Quality of Service (QoS) for the end users and an economic loss for the broadcasters, who, due to the temporary financial difficulty, are forced to invest twice. A longer timescale for the ASO process or financial help to broadcasters would avoid these problems and enable a harmonised network implementation in all Member States.

4.10 Member States will be recommended to free the 790-862 MHz sub-band for the digital dividend, but they will not be obliged to do so. If a particular country's spectrum situation is such that all TV broadcasting services cannot be packed into the remaining part of the UHF spectrum, the country in question will be allowed to keep TV broadcasting services in the 800 MHz band. Countries may also choose to accommodate simultaneous operation of TV broadcasting and wireless broadband services as a compromise solution.

4.11 Since all Member States are likely to use the 800 MHz band for wireless broadband services on the long term, it is essential to develop appropriate technical specifications in order to avoid harmful 'border effects' which would certainly damage the wireless broadband services because of the lower power levels used for the wireless cellular networks.

4.12 The same problem arises where non-EU countries at the borders of the EU are concerned. In these countries the existing high-power broadcasting services in the 800 MHz band will most likely interfere with the wireless broadband services adopted by the EU neighbouring countries. When an interference problem arises with an adjacent non-EU country, the only solution is to negotiate an agreement with that country on the frequency allocation of their TV transmitters located near the border with the EU, though this may be no easy matter.

4.13 The optimal target for the EU Member States adopting the 800 MHz band for the purpose of the digital dividend is to establish a proper balance between the economic and social benefits generated by the use of the spectrum by telecom operators (which will benefit from new available bandwidth) and by broadcasting operators (which will benefit from a better use of the available bandwidth and of additional high-added-value services such as interactive applications including e-health, e-learning, e-government, e-accessibility and so on).

4.14 Member States should work towards the implementation of public utility services through the digital TV network and at the same time allow for easily accessible services with the new mobile broadband services created thanks to the digital dividend band. If they do this, their policies will operate in a neutral way, guaranteeing the economical interests of both broadcasting and telecom operators.

4.15 A very interesting aspect of the new digital dividend implementation is the fact that TV services will be increasingly available over new generations of mobile telephone networks (3G and higher). This means that in some ways mobile operators would offer the same services as those typically offered by traditional TV broadcasters, thus opening up a new competition scenario. It is advisable, however, to avoid implementing hybrid networks managed simultaneously by broadcasters and telecom operators. This will allow the two business entities to remain entirely independent and prevent business models that may not be consumer friendly.

4.16 The interactive applications that may be offered by TV broadcasters within their new digital programmes may be developed on any standard for interactive TV services. Nevertheless, it is advisable to use technologies such as the MHP standard (Multimedia Home Platform, an open middleware system standard designed by the DVB project for interactive digital television) since it is European technology and also completely open. It thus requires no royalties and offers economic advantages to operators and, above all, to end users. Other technologies are also available, but it is advisable to select an open standard, whichever that might be, for the sake of end-user accessibility to this new technology.

4.17 The more efficient way to achieve the ASO in the EU is co-ordinated cooperation between Member States in order to achieve a continuous exchange of experience, especially in the field of digital TV network planning and of optimal spectrum efficiency. We believe that national public broadcasters should play a fundamental role in this intra-EU exchange. In fact, their 'public status' implies that they should offer a public service. National public TV operators should therefore be available to offer consultancy services to the public TV operators of other (EU and non-EU) states. A typical benefit of this approach would be quick and effective training for TV operators in new Member States, which are usually at an earlier stage in the development of their digital TV networks.
4.18 An element to be considered in the process of opening the 800 MHz band to the new wireless broadband services is that the TV broadcasters that are currently broadcasting in the VHF band may have to move (at a date yet to be determined) to the UHF band in the case the corresponding VHF channels would be used by Digital Audio Broadcasting (DAB). The transition to digital radio will not in itself contribute to the digital dividend because it is not yet clear if traditional analogue radio broadcasting will be switched off. Moreover, even if it is switched off, the portion of the freed band is too small to significantly contribute to the digital dividend. Nevertheless, the new DAB services will certainly use the same VHF band currently used by TV operators, so this issue will further contribute to the spectrum squeezing in channels 21-60 of the UHF band.

4.19 It should also be noted that, in the process of opening the 800 MHz band to the new services, the TV broadcasters which currently use channels 61-69 (in the 800 MHz band) will have to move to another channel in the UHF band, while the broadcasters which are at present using channels 21-60 will not be obliged to make any change. This is a clear disadvantage for broadcasters using the 800 MHz band and they will need to spend money and time. At the same time, they will be forced to switch off their transmitters during the channel change, thereby also suffering the temporary loss of on-air advertising. For these disadvantaged broadcasters, then, the basic equity principle would require financial help to be provided according to the provisions of the Treaty on State Aid.

4.20 To achieve an optimal spectrum efficiency, it is strongly recommended that the new technologies adopted (such as MPEG-4 encoding and DVB-T2) shall make it possible to further carry [or transmit] TV programmes into a narrower band. At the same time, the adoption of these new technologies should not have a strong impact on the end users’ costs, otherwise the universal accessibility of the new services would be seriously impaired.

4.21 Another useful technology to optimally exploit the (scarce) spectrum resources is the implementation of Single Frequency Networks (SFN). With this technology a regional network can be implemented using a single spectrum channel, while with standard multi-frequency networks at least three or four frequencies are needed for medium-sized TV networks. In order to use a single frequency, all the transmitters of the network must be synchronised by using a common time reference. The only method currently used is the Global Positioning System (GPS), which is a military application wholly managed by the USA. This means that all the SFN Digital TV networks are 100 % dependent on this system, which might be altered or switched off at any time by the USA authorities, thus creating a huge problem for these TV operators.

4.22 The GPS, however, is not the only system that enables network synchronisation. Other potential alternative systems could be a source of common synchronisation. The EU might work towards the rapid completion of the GALILEO project, which could become a European alternative to GPS and would allow the complete independence of EU Member States from a US military system.

4.23 One of the proposed systems to optimally exploit the digital dividend band is to use intelligent wireless broadband equipment capable of automatically searching for free radio-frequency bands (even between existing TV broadcasting services) and dynamically use the available bands by continuous frequency tracking during their normal operation. These systems (called 'cognitive radio') would certainly be a perfect technical solution for maximising the digital dividend, but the risk is that the final cost to the end user would increase to a level which would prevent universal accessibility to the digital dividend.

4.24 In order to open the 800 MHz band completely for the new wireless broadband services, all the low-power transmission systems used for entertainment or sport events (the ‘wireless microphone’ systems) should be relocated to frequencies outside of this band to avoid harmful interference to the new services of the digital dividend. These systems typically operate as secondary uses in idle spectrum left between two active broadcasting coverage areas. Some of these systems are for professional use (e.g., the ones in operation during the Olympic Games or during official music concerts) and use regularly licensed portions of the UHF spectrum. Many others systems operate under general authorisation which does not require individual licences. Thus a careful regulation of these services should be planned in a co-ordinated manner at EU level in order to avoid the digital dividend band being impaired by residual interferers in the spectrum even after the Analogue TV switch-off has been successfully accomplished.

4.25 Another very delicate situation to deal with is the presence of military UHF services in some Member States and/or in some neighbouring non-EU states. These services will be another source of interference for the new communication services of the digital dividend. Careful negotiations should be carried on with the military authorities of the relevant countries with a view to shifting these existing services to different portions of the radiofrequency spectrum.


The President
of the European Economic and Social Committee

Mario SEPI