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## **BNE comments on the ideas raised in the Green Paper “Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values”.**

Dear Sirs,

Broadcast Networks Europe (BNE)<sup>1</sup> welcomes the opportunity to comment on the European Commission Green Paper on the convergence of the Audiovisual Sector. The attached response contains a summary section which is followed by specific answers to the questions raised by the Commission that relate directly to the core business interests of Broadcast Networks Europe’s members.

Yours sincerely



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<sup>1</sup> Broadcast Networks Europe (BNE) is a trade organisation for European Terrestrial Broadcast Network Operators. BNE currently has 16 members with operations in 22 European countries. Members are Abertis (Spain), Arqiva (UK), České Radiokomunikace (Czech Republic), Digea (Greece), Digita (Finland), ETV (Serbia), Elettronica Industriale (Italy), Norkring (Norway), Oiv (Croatia), ORS (Austria), Swisscom Broadcast (Switzerland), Radiocom (Romania), Rai-Way (Italy), RTENL (Ireland), TDF (France) and Teracom (Sweden). In addition Terrestrial Network Operators in Belgium, Germany, Estonia, Hungary, Monaco and Denmark are represented by their respective parent (and BNE member) company.

## 1. Summary

Regarding the spectrum and infrastructure aspects outlined in questions 7-8-9, BNE considers that it is worth reflecting on the observations made in our response to the RSPG Draft Opinion and revisited below. We believe that the following aspects should be considered as part of Commission's work on Convergence to ensure that the outcome of its evaluation is complete and balanced.

- The Important role played by DTT across Europe in terms of uptake and investment in European originated content production
- That further displacement of DTT services out of existing spectrum should be subject to detailed Cost-Benefit Analysis
- Refarming of existing IMT spectrum which is currently occupied by legacy systems, e.g. GSM and EDGE, should be prioritized
- Greater emphasis on the importance of Wi-Fi offload and Small Cells to deliver the growth in data traffic
- Due consideration be given to the extent to which traffic is truly mobile, i.e. subject to cell handover
- Greater scrutiny should be given to growth forecasts for wireless broadband traffic with key forecasts recently revised down.

Considering the importance and impact of the availability of spectrum for the terrestrial broadcasting industry and the very high number (240 million) European consumers that depend on it for their daily consumption of Broadcast content, BNE is committed to working with the European Commission to ensure that fully informed decisions are made and that the future spectrum strategy that is developed is optimized to support the interests of the consumer from both DTT and wireless broadband perspectives. Finally we urge the Commission to consider in its analysis the extent to which European originated content, a highly lucrative source of export income, is critically dependent on the DTT platform for its funding.

## 2. QUESTIONS FOR PUBLIC CONSULTATION:

BNE's response is focused on the aspects that are core to its members' interests and hence our response is focused on questions 6 – 9.

### **Question 6. Is there a need for EU action to overcome actual or potential fragmentation and ensure interoperability across borders? Is there a need to develop new or updated standards in the market?**

BNE are supportive of the development of common standards and implementation guidelines for consumer equipment. A good example is the European DVB-T standards suite which is the most widely utilised set of standards for digital terrestrial television in the world. The development of this suite of standards has underpinned the investments made by Consumer Equipment Manufacturers (CE) to develop receivers for a very large international market. Clearly future commercial opportunities will be enhanced if there are common standards for connected / broadcast devices whether they be fixed or mobile.

Common standards and implementation guidelines should include all aspects to guarantee the interoperability between receivers and various service providers and also allow real time identification of certified devices. An obvious example is the Freeview brand in the UK. Further examples where common standards should be developed are for the Digital Rights Management technology and implementation of HbbTV and DVB-GEM (formerly DVB-MHP). Wherever possible interoperability should also consider the need for systems to be upgradeable over time and hence due consideration

should be given to systems that can be upgraded via software updates rather than the need for full equipment replacement.

Moreover, for equipment that is bought and paid for by the consumer, Government and Industry should work to ensure that this equipment is standardised to work across as many countries as possible and where exclusions apply, these should be obvious to the customer.

**Question 7. How relevant are differences between individual platforms delivering content (e.g. terrestrial and satellite broadcasting, wired broadband including cable, mobile broadband) in terms of consumer experience and of public interest obligations?**

There are indeed significant differences between the various platforms for TV-distribution - terrestrial, satellite, copper- and fibre-based broadband, cable-TV and mobile broadband.

**About the Digital Terrestrial Television networks (DTT)**

DTT is one of the largest and most effective and efficient platforms for distribution of broadcast TV. The terrestrial platform has evolved dramatically over the last ten years to become fully digital offering a wide range of high quality content, both Standard Definition and High Definition, to a large number of European users.

In fact, DTT is a spectacular success. With its low cost per viewer served and easy access it has become the most popular delivery platform for television content in Europe. European consumers have embraced DTT and are investing in new receiving equipment to gain access to the service. DTT networks now deliver some 2000 TV channels and this content is enjoyed in close to 50% of European households in their permanent homes. This sums up to circa 240 million viewers, each spending some 4 hours watching linear TV every day. In addition, a large number of households depend on DTT to receive TV on their second and third TV sets at home, in summer houses, boats, caravans, etc.

This success has also contributed to the widespread adoption of the suite of European DVB-standards for DTT around the world.

To receive TV from the terrestrial networks is an obvious choice for many European households, particularly in rural areas, where availability of alternative distribution platforms is limited.

There is currently no evidence showing strong growth of other platforms at the expense of the terrestrial platform. Rather, the terrestrial networks maintain a strong position and it must be noted that willingness by households to change technology is usually a much slower process than forecasts suggest. This is underpinned by new and attractive services being introduced on the DTT platform (Pay-TV/VOD, HD and 3D). Our conclusion is that DTT will remain an extensively used and key distribution platform for broadcast TV and will play an important role in European content production and freedom of expression and information provision.

**DTT versus other platforms**

Terrestrial Networks have many benefits versus other forms of distribution:

- The DTT networks are characterised by high availability, robustness and the scope to deliver local and regional content such as local news, programming and advertising which are valued by consumers and content providers.
- DTT networks are built with a high degree of redundancy and backup power. This means that terrestrial networks are able to maintain broadcast services even under difficult conditions, such as extended power outages and during natural disasters.
- Terrestrial networks typically provide national coverage offering services beyond densely populated areas.
- Terrestrial Networks are not limited by the number of simultaneous viewers unlike services delivered via fixed or mobile internet.

- To receive TV from the terrestrial networks with a simple and inexpensive standard TV aerial is easy for each individual household. Satellite reception typically requires a more expensive and complicated antenna installation which has to have line of sight to the satellite, which is not always possible.
- Free-To-Air (FTA) TV channels in the terrestrial network are unencrypted, which means that households can receive content without having to sign up for a subscription and pay a monthly fee to an operator. Furthermore, there is no commercial "gatekeeper" between free-TV channels and citizens / consumers. This is of particular importance for Europe's public service channels to ensure independence and transparency. TV viewers are also anonymous. It is not possible to track and record what he or she is viewing.
- In a hypothetical threat of an impending terrorist attack, it may be necessary to turn off the mobile networks to avoid mobile phones being used to trigger detonators. In such case the ability to provide information to the public via video and radio broadcasts in the mobile networks is lost. Terrestrial Networks for TV and radio do not have this limitation.

### Alternative distribution platforms

The overall goal for broadband access in Europe is that 100 per cent of households will be able to access a connection of at least 30 Mbit/s and 50 percent of households shall subscribe to connections offering at least 100 Mbit/s by 2020. At a first glance this could challenge the need in the long term for traditional distribution platforms for TV - terrestrial, satellite and cable.

The technical solution to achieve the overall goal for broadband will include a combination of copper- and fibre-based infrastructure, wireless broadband services in mobile networks and broadband in cable TV networks. However, it should be noted that 30 Mbit/s or 100 Mbit/s is a very 'soft' specification and that delivering such transmission capacity for data transmission or Internet surfing means something completely different to delivering the same capacity for the live streaming of video services, to many users simultaneously, with high expectations regarding the quality and availability of the content – as is the case for linear broadcast services.

Coaxial cable based distribution networks for television (Cable TV) are well established in most European countries even if reach varies widely. Even if the Cable-TV networks can be used to deliver high capacity broadband, further geographical extension is unlikely to be practical for cost reasons.

New fibre networks are also being built in many countries, but to achieve full population coverage that extends to sparsely inhabited areas will be prohibitively expensive and uneconomic. Consequently it is questionable whether it will be technically and economically feasible to build cable and fibre networks to cover *all* households. Moreover, there is a great risk that the cost of such investments will ultimately end up in higher bills to the current FTA-TV viewers in the form of subscriptions and / or monthly fees. It may also adversely affect what Pierre Lescure's recent report<sup>2</sup> has identified as a transfer of value from content production/investment to delivery networks.

BNE further notes that the mobile networks will never become a realistic option for the distribution of linear television to large user groups. The networks are built for bidirectional individual data connections and not for continuous live video streaming services to many concurrent users. Capacity in the networks is hugely inadequate to deliver traditional high quality TV services and the network design is not optimised for in home reception, where the majority of content consumption occurs. Fundamentally, mobile operators are struggling to find the money to invest in the widespread roll-out of basic wireless broadband services to European citizens and hence it is difficult to imagine how they would fund networks for broadcast content delivery, even if it was technically practical.

Experience from the roll-out of 4G mobile broadband services in the 800 MHz band in Europe shows that there is virtually no 4G coverage in rural areas across the EU and that only three countries have achieved extensive roll-out of 4G despite high ambitions from policy makers.

<sup>2</sup> [http://www.culturecommunication.gouv.fr/var/culture/storage/culture\\_mag/rapport\\_lescur/index.htm#/](http://www.culturecommunication.gouv.fr/var/culture/storage/culture_mag/rapport_lescur/index.htm#/)

It should also be noted that the actual bit rate that a user receives is considerably lower than the theoretical maximum speed. The received bitrate is further decreased as the number of concurrent users of streaming services increases as compared to today's unicast packet-oriented networks. This also applies to MBMS technology (a broadcast type service in the mobile networks) which gives a much lower bit rate than the theoretical maximum speed for unicast services. BNE also notes that there is no example in the world where a mobile network operator has introduced MBMS on a large scale.

If political and regulatory decisions are taken to gradually weaken the position of digital terrestrial networks by limiting spectrum access, services will eventually deteriorate. Furthermore barriers to the launch of additional new services on DTT such as HDTV, 3DTV, UHDTV will further weaken the attractiveness of the platform and drive consumers and broadcasters to alternative forms of distribution. This in turn will provide reduced competition and increased control for fully commercial entities over the remaining distribution platforms for radio and television. Ultimately, this may lead to an outcome where there is no longer a simple and low cost solution for TV distribution such as terrestrial broadcasting on which European citizens currently depend – **this would be clear evidence of a regulatory failure.**

As a conclusion BNE cannot see any other distribution platform for TV that offers the attributes manifest in the terrestrial networks, i.e. coverage, security, availability, stability, ease of access and regionality. The terrestrial networks are in most EU countries the only platform where free-to-air public service channels are broadcasted unencrypted and without subscriptions or payments to a service provider. In addition, the terrestrial networks have a unique and central role in giving important information to the public during crises and disasters.

BNE therefore consider that a vibrant DTT platform is fundamental to sustaining competition and enabling low cost access to content for European citizens over the long term and hence should be a core focus of the Digital Agenda.

### **Linear TV and Video-On-Demand viewing**

Convergence between technologies and services is not a new subject and it can be concluded that an established technology or an established mode of use is not always replaced by newer ones. The ability to order video services (VOD - Video On Demand or sometimes called Play services) over broadband and IP networks have gradually established over the last 10-15 years and the consumption of VOD services has increased. But any "transition" from linear services of established broadcast networks to VOD over broadband does not seem to be underway. Still today VOD services represent only a few percent of the total viewing time. It is a simple and convenient model of thinking to speak of a "transition", but the evidence from consumption patterns does not support this perspective. As has been recently confirmed by a study from Médiamétrie, Broadcast Television is still the killer application in the distribution of audiovisual content, especially in Europe. In 2012 the average European consumed 3 hours and 55 minutes per day of scheduled linear television content, 7 minutes more than in 2011<sup>3</sup>

Although VOD and Play services from the major TV channels have become popular these account for only a few percent of the total viewing share. VOD and Play services are used mostly to watch programs shown on linear TV usually only one or a few days earlier. Demand for play services is thus driven in large part by what has previously been shown on linear TV.

It is also worth noting that linear TV is driving much of the content of newspapers and magazines. You write about what's going on and what's been on TV and it is often the daily topic of conversation between people. Linear TV fulfils an essential function by creating a common framework for conversation and interaction between people. This is not the case with VOD.

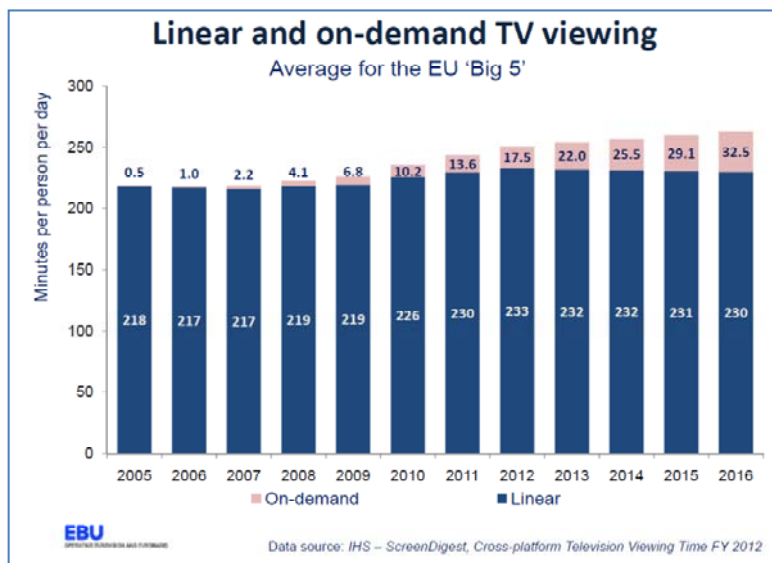
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<sup>3</sup>Médiamétrie - Eurodata TV Worldwide - One Television Year in the World - Edition 2013 - <http://www.mediametrie.com/eurodatatv/communiques/one-tv-year-in-the-world-2012-or-the-multiple-tv-experience.php?id=831>

BNE's view is rather that different forms of distribution support different needs and that linear TV and VOD services over broadband are and will continue to be complementary to each other.

Another conclusion of the Green Paper is that services distributed over broadband will change consumer behaviour almost automatically, from "reclined consumption to active participation." This conclusion seems to be based on a rather simplistic train of thought. The way a TV program is consumed can hardly be linked to whether the viewer is active or not - the difference may only be pressing a button on the remote or touching an app.

The figure below further illustrates the points made above showing recent projections from Screen Digest on the proportion of linear and non-linear TV consumption for the EU 'Big 5' countries.



**Question 8. What frequency allocation and sharing models can facilitate development opportunities for broadcasting, mobile broadband and other applications (such as programme-making equipment) carried in the same frequency bands?**

The migration from analogue to digital terrestrial television made the digital dividend possible. The end result is that terrestrial television is now utilising nearly 20% less spectrum than analogue was whilst also enabling a significant expansion in the range and type of services on offer such as Standard Definition and High Definition TV. Moreover, the allocation of the 800 MHz band to wireless broadband has not yet shown the anticipated benefits that justified its release to mobile in particular the widespread roll-out of wireless broadband services to rural areas.

To date the spectrum discussion has been primarily focussed on the needs of the wireless broadband and IMT sector with little account taken of the consequences to existing licensed and commercially attractive services in the Broadcast UHF band 470 – 790 MHz. Whilst we recognise that there is significant growth in wireless broadband data traffic we believe that it is important to note that this growth in traffic is already being served by a combination of technology solutions, i.e. Fixed, Wi-Fi , terrestrial IMT and Satellite broadband networks, which will be further augmented by the new 800 MHz and 2.6 GHz wireless networks being rolled out. Furthermore, the bulk of data traffic takes place in residential areas, where UHF spectrum is far less relevant than spectrum at higher frequencies. The importance of WiFi spectrum to the future delivery of mobile data traffic has been emphasised in the recent study undertaken by WiK / Aegis for the European Commission where they predict that in future upwards of 80% of mobile data traffic will be delivered over WiFi networks.

Moreover, DTT networks already exist and provide an efficient means of delivering very large volumes of data traffic, typically in the form of Audiovisual Content. For this purpose the DTT platforms are cost

efficient, spectrum efficient and extremely reliable. In this context DTT has become an essential part of the Audiovisual Ecosystem representing a key pillar of European content creation, enabling freedom of choice, cultural diversity and political cohesion. Finally, Digital Terrestrial Television is proving to be what consumers want: an easy and immediate means of accessing a multitude of TV and radio channels, complemented by a rapidly developing range of hybrid interactive services. Therefore any political action sacrificing the value brought by DTT to European citizens in order to reach long term policy targets centred on access to ultrafast broadband would most likely end up with counterproductive effects, i.e. higher costs for consumers, reduced access to European audio-visual content, lower quality and diversity of free to air TV on offer and reduced competition – **in essence a regulatory failure.**

We envisage a bright future for DTT in Europe with continued investment and innovation to support the migration to HDTV and to accommodate 3D and UHD TV in the future using the next generation of technology DVB-T2/HEVC. However, this will only be possible if the platform is afforded the appropriate certainty and access to spectrum over the long term. Furthermore, we believe that the Market and Consumers should be allowed to choose their preferred platforms for broadband services and media distribution. The market should not be biased by a far reaching regulatory intervention that results in a distortion of competition and choice. To not interfere with market forces is the philosophy normally adopted by the EC and should also apply in this case.

Finally, joint or shared use of frequencies is already a well established and successful practice between DTT and wireless production equipment such as wireless microphones (PMSE). Several studies have also been carried out within the framework of the ITU that show coexistence of mobile broadband (LTE) and DTT on shared frequencies is impossible. Some possibilities for coexistence between DTT and White Space Devices (WSD) may be found even if such systems have not yet been established in Europe. Studies conducted in the UK have shown very large differences geographically in the amount of spectrum that could be used for White Space systems with greater availability of spectrum in rural areas to potentially support wireless broadband applications.

#### **Question 9. What specific research needs with regard to spectrum have to be addressed to facilitate such development?**

The Commission is already in the process of commissioning research to inform its thinking with regard to network sharing and BNE encourages the Commission to engage extensively with industry stakeholders. Alongside this research we see merit in undertaking additional research studies as follows:

##### **Consumer perspective to examine future trends in:**

- Fixed, mobile and nomadic consumption.
- Multi-device consumption, i.e., use of more than one device at same time.
- Appropriate content formats for device/platform options?
- Linear TV versus on demand content
- Continuity of viewing across platforms?

**Technical perspective:**

- For all platforms, the industry and where possible European administrations, should seek to evolve and innovate the recording, processing, compression, distribution and broadcasting technologies and standards.
- In terms of enhanced spectrum utilisation between adjacent uses enhancements to electromagnetic compatibility need to be considered to minimise interference.
- Options for shared spectrum use should be explored in detail to consider the scope for spectrum efficiency gains.

**Social & economic costs perspective:**

- Prior to any decision about changes to current spectrum use, an extensive and detailed Cost-Benefit analysis is necessary. This analysis should take account of recently revised and “considerably less exponential” forecasts for mobile data traffic growth from both Cisco and Analysys Mason<sup>4</sup> alongside the impact and economic consequences of clearing any band, including a detailed appraisal of the costs of network changes / transition / interference mitigation / consumer management taking account of lost opportunity cost of such a change for consumers and broadcasters / network operators as appropriate. This analysis should endeavour to determine the timetable, legal / regulatory aspects as well as the social / cultural / political impact of any change, including its impact on European originated content production. The UK regulator is currently undertaking a similar programme of analysis and we urge European Policy makers to follow Ofcom’s lead.

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<sup>4</sup> Cisco, The 2013 VNI forecast shows considerably less growth than the 2012 VNI forecast. See Fig 1, Page 5 and Analysys Mason Fig 4 and 5 in Section “Illustrations”