

## **ANGA response to the consultation document “Transforming the digital dividend opportunity into social benefits and economic growth in Europe”**

### **I. Introduction**

The Association of German Cable Operators - ANGA represents the interests of more than 120 companies related to the German broadband business, among which are Kabel Deutschland, Unitymedia Group, Tele Columbus, Kabel Baden-Württemberg, PrimaCom, NetCologne, Martens, Marienfeld and wilhelm tel. ANGA members supply more than 18 million households with TV signals. In addition, more than 2 million homes are served with broadband internet via cable and more than 1.5 million homes use cable telephone services.

The German market is the biggest single cable market in Europe. More than half the German TV households receive their TV signals via cable. Altogether 19.6 million homes are connected to cable networks and 27 million homes could be connected. This relates to more than 65 % of all German homes in urban areas and many suburban and rural areas as well.

During the last 3 – 5 years the German cable operators have invested significant amounts into the upgrade of their cable networks by implementing the backchannel capacity (return path for internet and telephony), leaving behind the pure unidirectional broadcast approach, and into the extension of the general capacity up to 862 Mhz to provide more room for analogue and digital television as well as for data services. In 2008 the German cable industry invested around 750 million Euros and in 2009 additional investments of more than 700 million Euros are underway despite the current economical downturn. Thereby, cable networks have become a driving force for infrastructure competition and render an important contribution to the roll-out of NGA infrastructure (also by competitors).

As a consequence of the network upgrade, many German homes can now be served via cable with broadband internet where there are no alternatives. Therefore, cable has already contributed to bridging the broadband gap. Some households have - for the first time - a real choice between the ADSL offering of the incumbent DT and an alternative broadband provider. Introducing mobile telecommunication services, not only mobile broadband, via the Digital Dividend spectrum could affect these services by limiting the usability of bandwidth capacity available for cable networks or even directly interfering with the transmission of internet and telephony data.

Cable operators in Germany can and will contribute significantly to the roll out of NGA, which concurs with the overall public economic interest and will help to achieve to reach the i2010

objectives. Implementing the EuroDOCSIS 3.0 technology will enable broadband download speeds of up to 100 Mbit/s and more.

## **II. Summary of ANGA's views**

In general, cable networks are designed for a use of the full spectrum up to 862 MHz. Though the terrestrial band 790 – 862 MHz is now foreseen for the provision of electronic communication services it has been traditionally used by many cable operators for delivering TV and data signals to their customers. Any change in the allocation of the spectrum for other infrastructures, in particular freeing the so called Digital Dividend spectrum, can directly affect our end customers and networks. One major advantage of cable in the increasing competition with satellite, Digital Terrestrial Television (DTT) and IPTV services is the quality and stability of our TV- and data services, our customers expect to receive all multimedia services via cable in today's quality.

Initial tests conducted by the German "Institut für Rundfunktechnik" (IRT) and ANGA delivered strong evidence of extensive interference problems between an in-home mobile service and TV and data signals delivered via cable in the same frequency range. Due to different shielding properties and immunity requirements the consumer devices such as Set Top Boxes (STBs) have been clearly identified as the most sensitive element of the cable network infrastructure in the presence of a simulated LTE network in both up- and downlink transmissions<sup>1</sup>.

**Whilst we agree that there are significant societal and economic benefits to be gained from the unique opportunity of making available the Digital Dividend in the UHF band, it is of utmost importance to carry out a detailed impact assessment comparing the existing services enjoyed by citizens' and consumers with the perceived benefits of a new mobile service.**

Unfortunately, so far at least one major stakeholder, the cable network industry, has not been consulted on these issues and has had its inputs to the CEPT process ignored when attempting to highlight major problems for viewers and existing broadband users.

In addition, the major stakeholder, "the television viewer" is likely to suffer varying degrees of interference and may need to incur considerable costs on changing their installation to mitigate the problems

**A 'do nothing" approach would have detrimental effects: A complete loss of the spectrum in the 800 MHz band as a result of clearing all current services from the band because of being unable to co-exist with new LTE services would have consequences for the variety of digital TV offerings.**

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<sup>1</sup> An English summary of the two reports is attached as Annex A

Such an approach could also fiercely fire back at potential LTE providers. If numerous consumer equipment devices are interfered with, this will most certainly have an influence on the take-up of mobile broadband offerings.

**We therefore suggest that an in-depth impact assessment will be carried out before any final decisions are taken and time scales are drawn up. In particular the economic advantages/disadvantages of freeing the Digital Dividend spectrum and its impact on our customers need full disclosure. Such an impact assessment must take into account the following points:**

**1. Potential impact of the use of the digital dividend for mobile services on cable operators**

Cable networks are designed to use the spectrum range up to 862 MHz. This spectrum is used for analogue (satellite), digital and data services. A typical example for the usage of the 862 MHz spectrum is shown in the figure below.



In Germany, analogue terrestrial services have been replaced by analogue satellite services following their “switch off”. The spectrum between 790 – 862 MHz is used in different ways by network operators, some operators provide analogue TV-services from satellite; others use it for the transmission of digital TV- or internet and telephony services. Cable networks which are upgraded to 862 MHz serve close to 8 million homes in Germany.

However, those operators that have not yet upgraded their networks to 862 MHz are relying on that frequency band for future expansion of services for a number of reasons:

- Currently, German cable operators are preparing for the introduction (implementation) of EuroDOCSIS 3.0 technology. This standard for high-speed data distribution over cable networks will elevate cable to become one of the first Next Generation Access networks (NGA) with download speeds of 100 MBit/s and higher per home.
- At present cable is competing with traditional telecom systems such as ADSL, the NGA services will allow the citizen access to high speed broadband higher than delivered by today’s DSL-networks. Cable is a major driver for infrastructure competition and stimulates the roll-out of fibre by incumbents and other operators. Interference to these services by the new mobile service would be seen as a restriction of trade and unfair competition.

- The advance of Video-on-Demand services will also need substantial additional capacity over and above today's networks.
- During the course of this and next year HDTV programmes will start to play an important role in attracting customers for digital TV-services via cable. Several broadcasters (ARD, ZDF, ARTE, RTL, Vox and Premiere/Sky) have already announced HD programmes. In order to offer attractive HD programmes on cable networks additional bandwidth within the existing range traditionally used by cable network operators is needed.

The use of the Digital Dividend for mobile telecommunication services can affect the services on cable networks in different ways. As already mentioned above, the end-customer devices and, in particular, the tuners both for conventional TV and set top boxes seem to be the weakest link in the chain. The results of the tests conducted in Germany and Austria show clearly that interferences are to be expected, if services via cable and mobile services operate in the same frequency band.

Other potential interferences like the overload of the tuner by the interfering signal and image frequency effects could influence services, which are allocated in neighbouring channels. Especially the image frequency effect would have an impact on frequencies in a range of about 72 MHz to the frequency in which the mobile device operates. These kinds of effects have been identified in a study that has been commissioned by the Federal Ministry of Economics and Technology and conducted by the Heinrich-Hertz-Institute on the implications for DTT-Set-Top-Boxes. Similar effects can be anticipated for cable networks.

These effects need to be clarified before the usage of the Digital Dividend for mobile telecommunication services can be taken into consideration.

## **2. Potential impact of the use of the digital dividend for mobile services on end customers**

Tests have shown that interferences will have an effect on end-user devices such as Set-Top-Boxes, cable modems or TV-sets. In Germany, according to research conducted by SES ASTRA and TNS Infratest counts, there are 5.78 million cable homes which use digital cable services, i.e. either a Set-Top-Box or a digital TV-set with integrated tuner. In both cases the tuner could be affected and the viewer may be forced to exchange such a device at his cost.

Many flat screen TVs on the market today include a DTT tuner. Integrated cable tuners for digital TV can already be found in the higher price segment of flat screen TVs. In 2009 some 4 million flat screens containing a digital cable tuner are expected to be sold in Germany. All major manufacturers have announced to equip their TV-flat screens with integrated cable and DTT tuners for the near future. These trendy and quite expensive devices promise to be well accepted by viewers. Interference caused by the use of the Digital Dividend by mobile services after its release will endanger the proper operation of these devices and cause

enormous detrimental effects for the living room experience of the viewers( including game consoles).

### **III. Comments on the consultation document**

From an overall perspective, we would like to comment as follows:

#### **Extensive consultations with main interested constituencies**

We recognise that the Commission has consulted with a wide range of interested stakeholders (both current and potential users) through different channels.

Unfortunately, to date, the cable industry has not been adequately consulted on these issues and has had its inputs to the CEPT process somewhat overlooked when attempting to highlight major problems for viewers and existing broadband users.

More importantly, we would question whether the interests of the major stakeholder, “the television viewer” have been adequately addressed. We believe that the Commission needs to do more to understand the extent of interference that viewers may experience (and when) and also review how any costs involved in changing their existing equipment would be covered.

In summary, we believe that the Commission should satisfy itself, before its final decision, that the current programme to deliver the digital dividend policy does not disadvantage many millions of households.

#### **Technical preparation under the auspices of the CEPT**

We are aware that the Commission requested technical input from the Member States' experts in the CEPT, which has had a mandate to identify technical solutions allowing the co-existence of bidirectional low/medium power networks (e.g. for wireless broadband) and traditional high power broadcasting networks.

Despite the Commission's belief that the CEPT has fulfilled its mandate, as already indicated, we do not consider that the CEPT has identified all the technical issues nor given sufficient evidence that the interference management issues can be properly dealt with.

In particular, the CEPT report has not fully addressed the interference that could be generated by new mobile systems (LTE) to viewers receiving their TV signals via, for example, domestic installations, communal aerial systems (apartment blocks) and cable customer equipment.

As far as we are aware, no proposals for mitigation techniques have been put forward in the report other than a statement as follows:

*“It may be necessary to use band pass filters at DTT receivers in order to be sufficiently protected against interference caused by this in-block EIRP limit. This is particularly important for portable reception.”*

However, we believe that the possible reduction in power would be contested by the new mobile service providers as it could increase the number of base stations required to provide the necessary coverage and service quality which, in turn, is likely to impact financial viability.

Therefore, the EC Mandate that required “the identification of common and minimal (least restrictive) technical conditions for 790-862 MHz for the digital dividend in the European Union” has not been adequately completed because the interference and costs to viewers with existing equipment has not been fully considered when defining the “least restrictive” technical conditions.

It is a normal requirement for a full impact assessment to be carried out on the economic effects of sharing or allocating spectrum.<sup>2</sup> This does not appear to have happened and, whilst there have been a number of reports on the advantages to the European economy from these new mobile service, we do not believe that the costs to the economy and citizens’ of implementing these proposals have been properly considered.

It should be of concern to all stakeholders, not least the LTE service providers, to understand the extent of their obligations to bear costs of resolving any interference problems arising from the use of the 790-862MHz band, particularly if the “polluter pays” principle were applied.

### **Rural rollout first**

Future mobile broadband services using LTE technology have been welcomed as one possible way to bridge the so called broadband gap. Therefore, the rollout in rural areas must be the priority and part of the licence requirements’. We would suggest introducing such services first in areas where no or little interferences are to be expected. If the Commission policy should focus on the provision of broadband access in rural areas, it would be a logical way forward. This approach would also allow more time which is required to address potential interference problems, which are likely to be felt more intensely in higher density areas.

In that regard it is also astonishing if draft rules for auctioning expressly exclude the possibility for a regionalised allocation of spectrum.

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<sup>2</sup> See Commission’s Communication on Impact Assessment, (COM(2002) 276) final, 5 June 2002

#### **On Point 4.1.b “Setting standards for the ability of digital TV receivers to resist interference**

Initial ECC statements suggested that the interference problems highlighted are an “EMC” only issue is not consistent with the existing policies of the EC and the present EMC standards where the receiver tuning range is excluded from testing. We now have a market position where legacy equipment has been placed on the market after showing conformity to the existing requirements and the rules have changed by the proposed reallocation of the 790-862 MHz band. This leaves domestic TV equipment, customer premise equipment and associated ancillaries which continue to tune this band vulnerable to interference from the new service.

Prior to any auctioning of the frequencies in question and prior to implementing any new services, new immunity limits must be introduced into the following EN norms:

EN 55020:2002

Sound and television broadcast receivers and associated equipment. Immunity characteristics. Limits and methods of measurement (CISPR 20:2002) and

EN 55024:1998

Information technology equipment. Immunity characteristics. Limits and methods of measurement (CISPR 24:1997 (modified)),

The transmitter field strengths of new mobile services must respect any new immunity limits .

#### **On Point 4.3. paragraph 4**

Taking into account the aforesaid, it is essential that more time is planned to study and solve the potential interference issues highlighted above in order to enable the cable industry to address the consumers’ needs.

#### **On Point 4.6. (new)**

In view of the test results generated by the studies of ANGA and IRT as well as UPC Austria, our European association Cable Europe has commissioned further tests to provide a broader validation of the conclusions. These tests are ongoing and are aimed at assessing potential interference to a wide range of customer equipment and in-home networks, not just those used by cable customers. Once available (probably later in September), our industry is willing to share these with interested parties.

We strongly believe that, since this is a technology issue that could have a direct effect on the general public and consumer, it needs to be resolved at the policy level before final decisions on spectrum award and reallocation are fully implemented.

In the light of the aforesaid, we suggest including a task into the roadmap accordingly.

#### **On Point 5.1.**

As far as the wording throughout the whole document is concerned, we would like to underline that the term “analogue switch-off” refers exclusively to the switch-off of terrestrial TV and under no circumstances to analogue cable offerings. As such this term has often been misinterpreted. It should be clear that there is no legal obligation to switch off analogue cable TV offers. Many cable customers in Germany still prefer analogue cable TV offers because of its ‘plug & play’ easiness. In addition, there is no necessity for it, because cable does not know capacity restraints similar to terrestrial TV.

In this respect, one further ‘urgent action’ that we would add is that, prior to any implementation of the new service, there should be clear “guidelines to citizens” on the assistance (including economic) available to them in the case of interference to their domestic television equipment.

#### **IV. Conclusion**

Although we understand the objectives of accelerating analogue switch-off, we caution against an acceleration of the re-use of spectrum for LTE until a full impact assessment is carried out. Timely completion must be interpreted as getting the conditions right for the delivery of services that will satisfy consumer demands.

A solution, which enables all existing and future users of the spectrum range in question to commonly use that band without or at least with minimum possible interference, should be the core objective before any decisions on releasing the Digital Dividend are taken. Simply ignoring the potential interference issues would effectively mean preferential treatment of one possible broadband infrastructure at the cost of an existing one, which would result in unfair competition and a restriction of trade for the cable operators who are heavily investing in a very successful NGA-fit infrastructure located both in suburban and rural areas.

Berlin, 4 September 2009