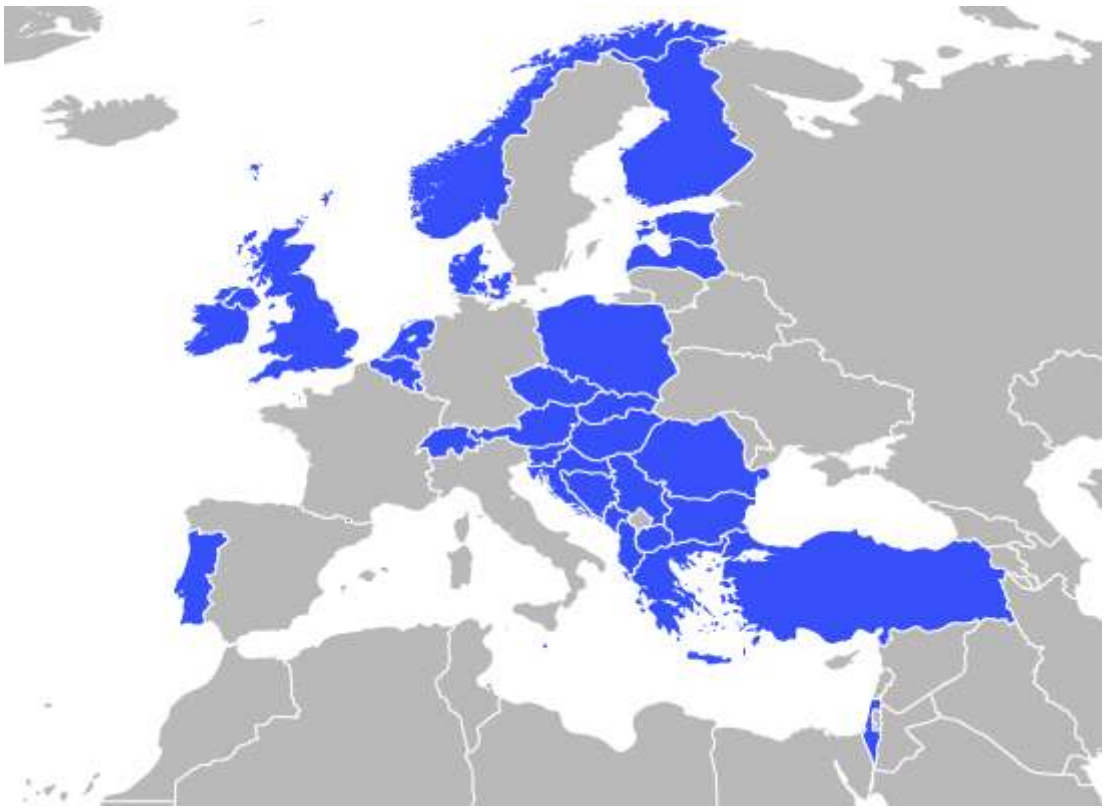
# Report on results of the questionnaire regarding Transition to Digital Terrestrial Television Broadcasting and Digital Dividend

## 1. Introduction

The Questionnaire regarding Transition to Digital Terrestrial Television Broadcasting and Digital Dividend is an integral part of the European Regional Initiative on Digital Broadcasting for Europe (http://www.itu.int/ITU-D/EUR/ri/broadcasting) which aims at assisting Member States in Central and Eastern Europe in making a smooth transition from analogue to digital broadcasting. European Regional Initiative on Digital Broadcasting is one of three European regional initiatives adopted by the ITU Resolution 17 (WTDC-10, Hyderabad). The questionnaire was sent to all Member States of the Europe Region on 15 February 2013.

This Questionnaire was developed after the **ITU Regional Seminar for Europe on Transition to Digital Broadcasting and Digital Dividend** held in Budapest, Hungary, on 5-7 November 2012. For more information regarding the Seminar please visit the ITU website http://www.itu.int/ITU-D/EUR/ri/broadcasting/seminar. The purpose of this activity is to collect information letting further develop a unified approach for digital broadcasting in order to enhance the advantages that it will bring to the region of Central-Eastern Europe.

Total of [35] administrations have completed and returned the Questionnaire form (map below). Contact details for the administrations are given in Annex 1. The questionnaire is comprised of five sections. For each section, the report provides a summary of the responses and responses for individual questions are given in tables, charts or graphs as appropriate. Specific responses from one or several administrations are also included to provide specific approaches taken in these countries.

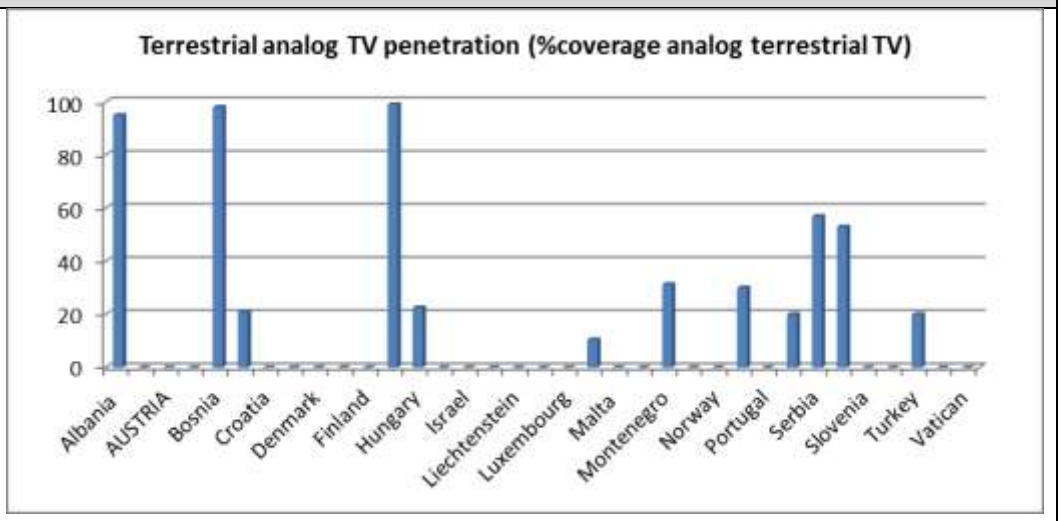


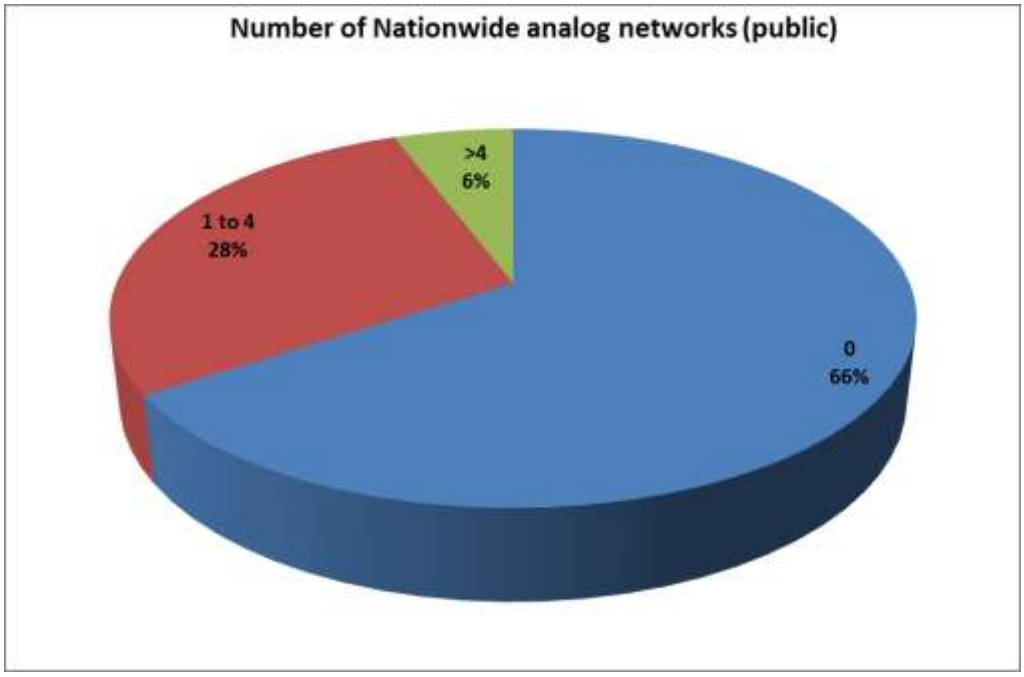
## 2. Results of the questionnaire

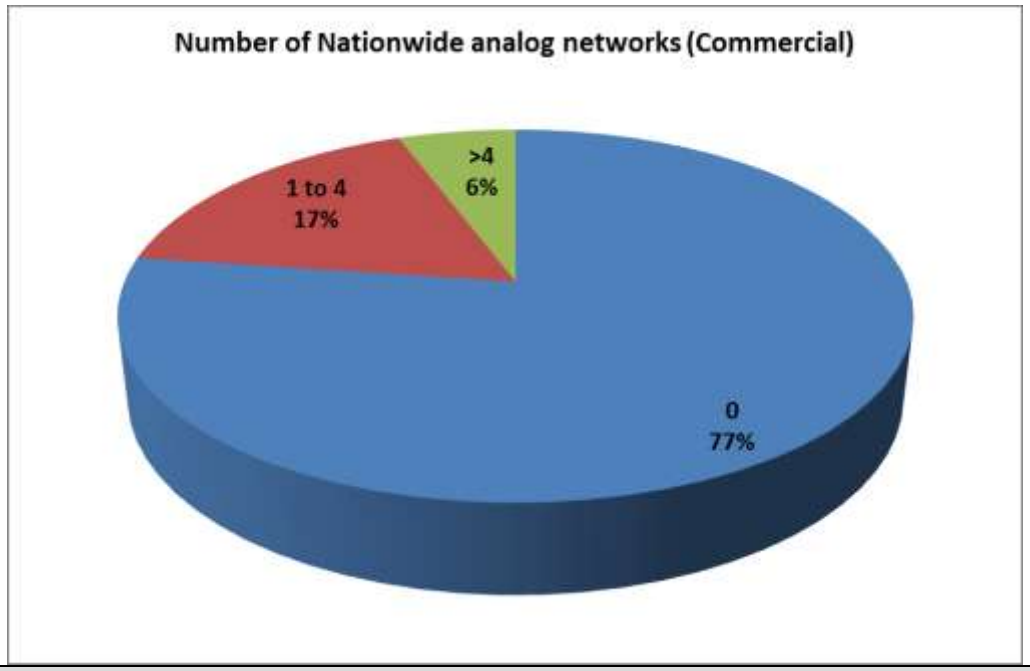
### I. Analogue television

Many countries in Europe have either completed or nearly completed the switching off their analogue television network (ASO). However, few countries in the eastern and southern Europe have not started their ASO. The majority of countries followed a smooth ASO strategy including simulcasting of analogue and digital transmissions, 3 countries implemented the big bang or very short simulcasting approach.

On the question of subsidy of set-top boxes, 13 countries do not provide any subsidy for STB purchases; 10 countries implement or plan to implement some scheme of subsidy. 9 countries have either not decided or did not reply to this question. In countries where a subsidy scheme is implemented, criteria to determine whether a household would receive subsidy generally take into account the economic and social needs of the households. In Austria and Bulgaria, all subscribers of the public TV automatically qualify for the subsidy.

<table>
<tr><td colspan="2">Q1. Terrestrial analog TV penetration (households receiving analog terrestrial TV)</td></tr>
<tr><td>Serbia:<br>According to electronic communications market analysis provided by Republic Agency for Electronic Communications (RATEL) in 2010, the percentage of households receiving analog terrestrial television was 57%. It is estimated that after switch over, the percentage of users who receive television primarily by digital terrestrial will be 50%. According to the market analysis provided by RATEL for 2011. a number of cable, IPTV and DTH subscribers is increasing. During 2010. the percentage of households receiving cable television was 34%, satellite 8% and IPTV 1%.</td><td> 
</td></tr>
<tr><td colspan="2">Q2. Number of Nationwide networks (public or commercial)</td></tr>
<tr><td>Bulgaria:<br>Three Nationwide analog TV networks –(one public and two commercial).</td><td></td></tr>
</table>

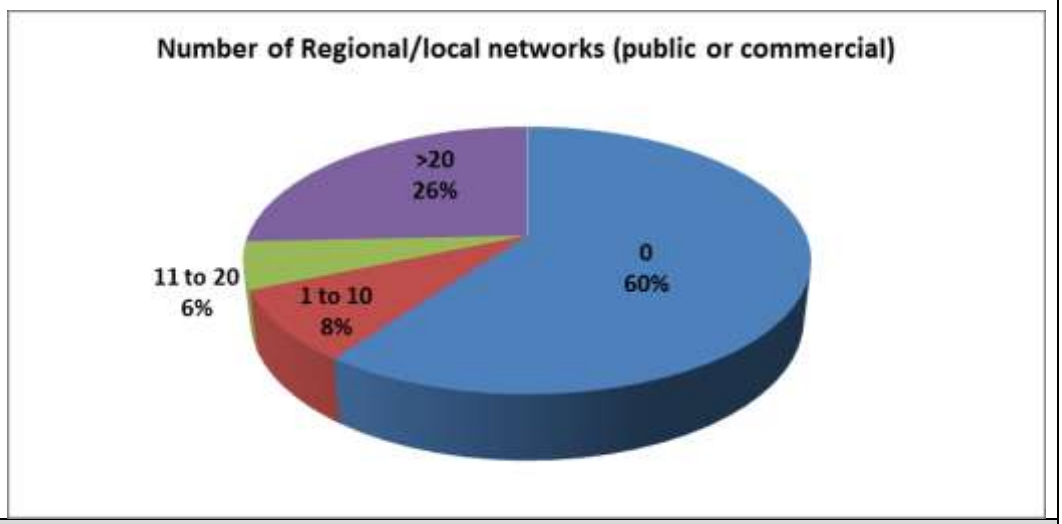



Q3. Number of Regional networks (public or commercial)
Q4. Number of Local networks (public or commercial)

**Bulgaria**:
Four public regional networks.

112 Local commercial networks




**Q5,** Switch-off planning (regional or nationwide)

**Serbia**:
Due to the lack of suitable

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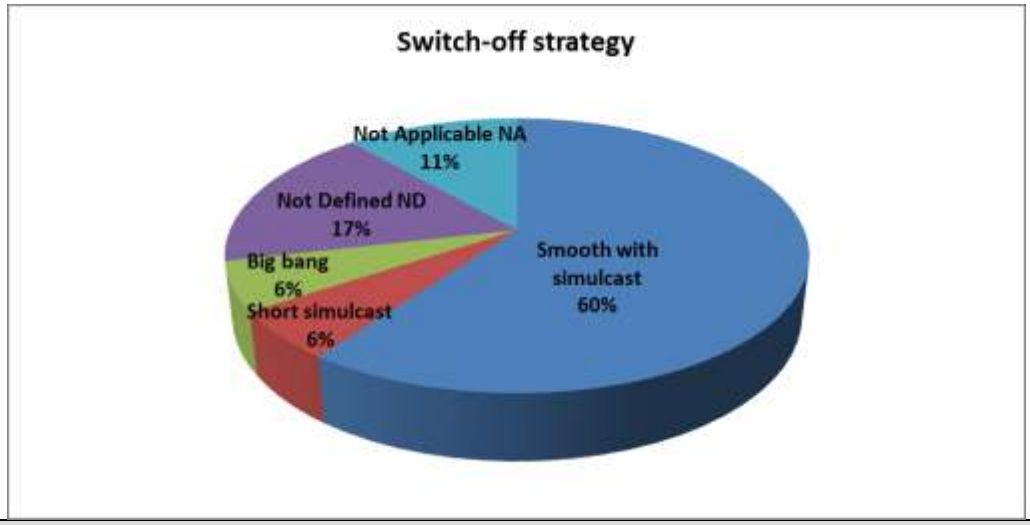
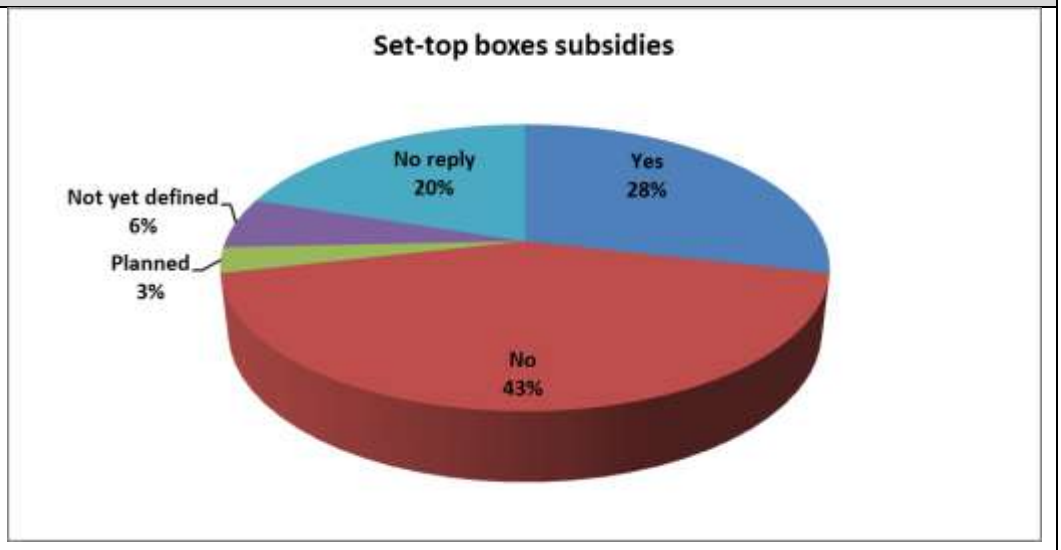
| frequencies, it will not be possible to simulcast analogue and digital terrestrial television transmissions throughout the whole territory of the Republic of Serbia. The transition will be completed on a phased basis. The Government will adopt the DSO Plan that will determine the sequencing and timetable for the phased transition from analogue to digital in each DSO region. | |
| Q6. Switch-off strategy (big bang or smooth with simulcast) | |
| **Andora**: Switch-off already done: we started with a pilot MUX (new programs, so no simulcast) and, once we tested the technology, we did a “big bang” switch-off. |  |
| Q7. If set-top boxes subsidies exist, what are the criteria and the way/amount? | |
| **United Kingdom**: No receiver subsidies are in place except the ‘Digital Switchover Help Scheme’ (www.helpscheme.co.uk) which was established to provide assistance to potentially vulnerable viewers (the elderly, and those in receipt of certain social security benefits) to convert one TV set to digital for a fixed fee (or cost-free in some cases). Each registered household received DTV equipment (DTT, satellite or cable), installation support (including antenna installation / upgrade if required) and aftercare.G)<br><br>**Hungary**: Criteria: social position; eligible people get complete reception solution as per their choice (digital cable-satellite-terrestrial) amount: approx. gross HUF 25,000 (approx. EUR |  |

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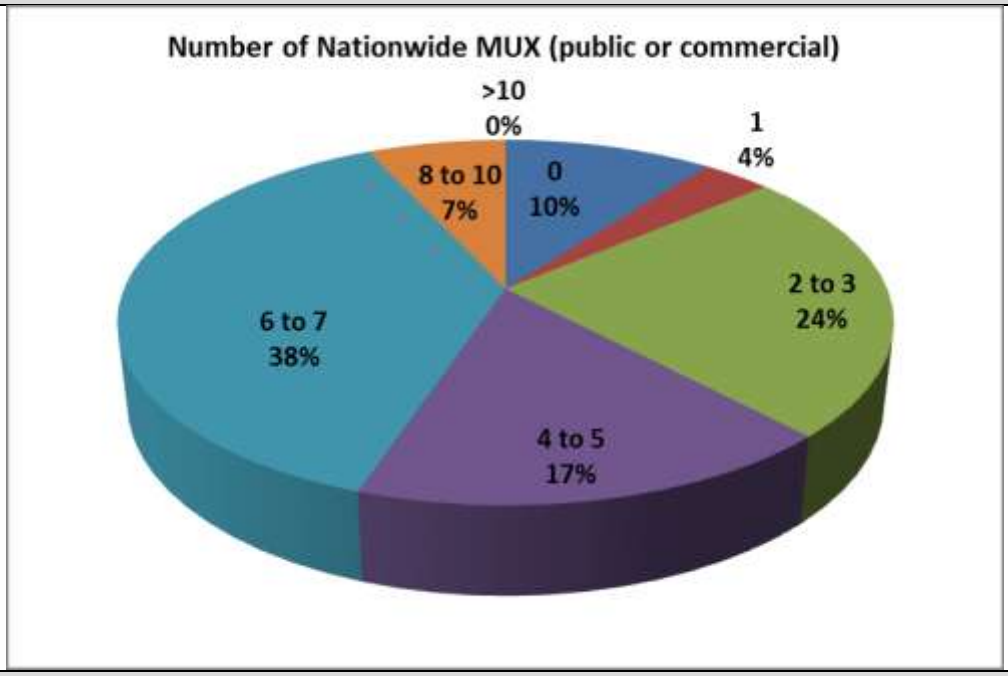
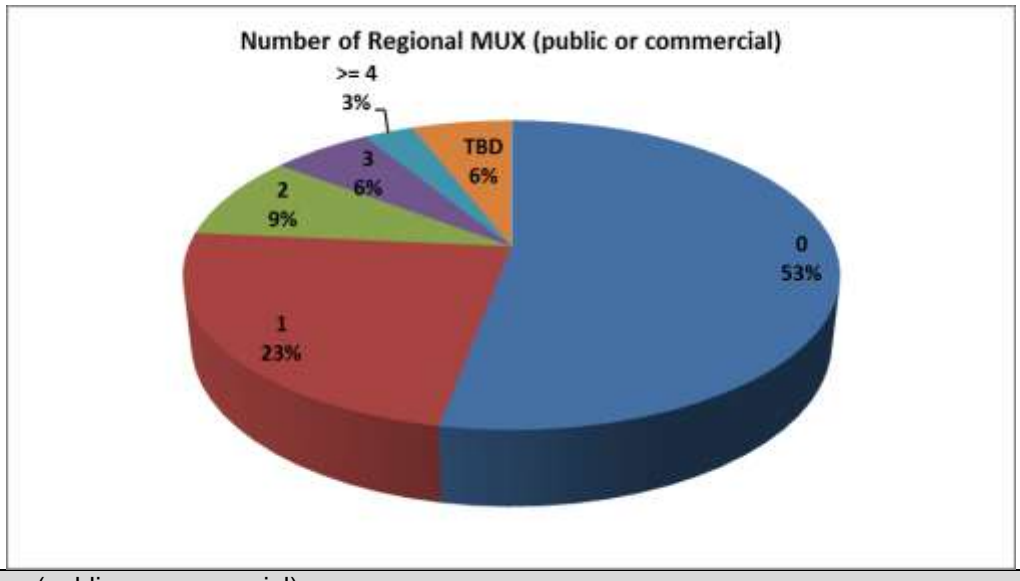
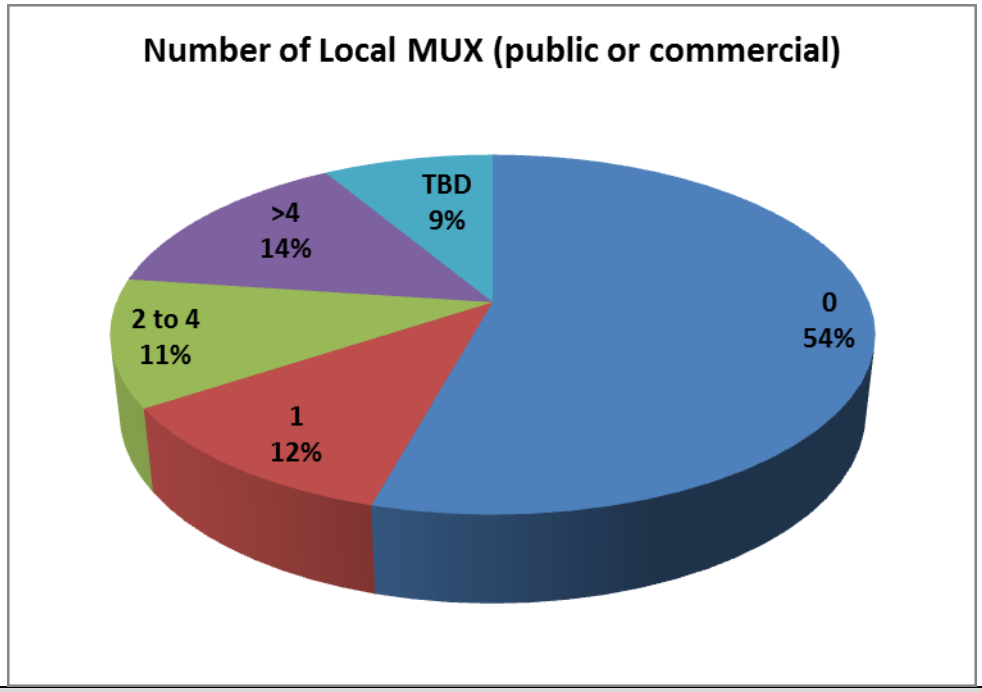
| 85). | |

## II. Digital Terrestrial Television

62% of participating countries have more than 4 national multiplexes. The number of national DTT multiplexes ranges from 1 to 10 throughout the countries con. There are few local multiplexes. By the end of 2015 all countries would have ended the analogue switch-off and the digital switch-on.

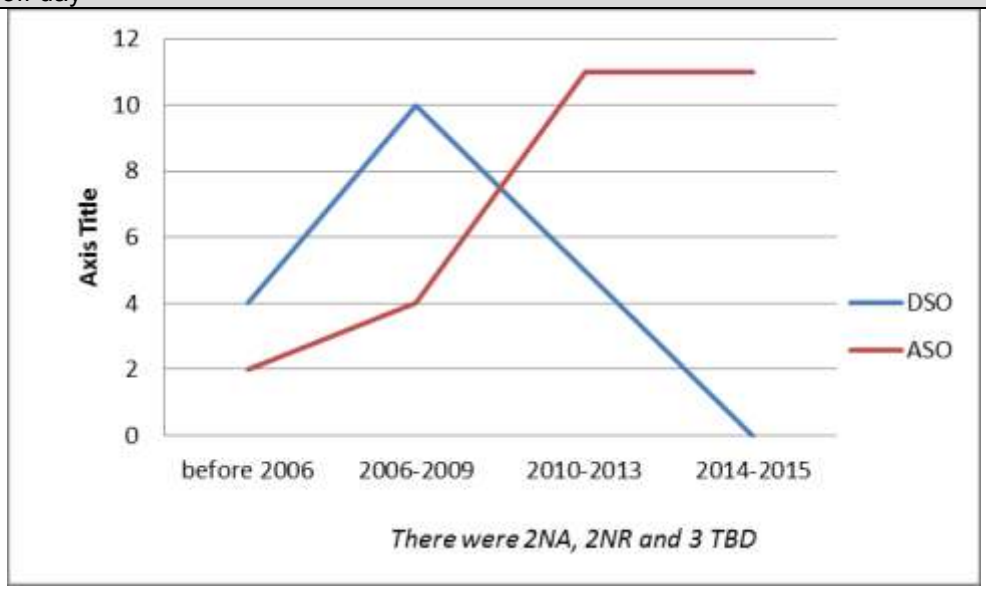
| Q8. Number of Nationwide multiplexes (public or commercial) | |
|---|---|
| **Macedonia**:<br>3 commercial (with conditional access), for reemission, pay TV programs<br>2 free to air-public, only for public broadcaster<br>1 -commercial free to air, emission on national TV stations. |  |
| Q9.. Number of Regional multiplexes (public or commercial) | |
| **Macedonia**:<br>1 -commercial free to air, emission on regional TV stations |  |
| Q10. Number of Local multiplexes (public or commercial) | |
| **Macedonia**:<br>ongoing public consultations | |




Q11. Digital Switch-on day (per region, if applicable)
Q12. Complete analogue Switch-off day

**Hungary**:
1st December, 2008: At 3 main transmitter sites 2 DVB-T and 1 DVB-H multiplexes with FTA and pay-TV programs were switched on (56%)
1st December, 2009: Further 10 main and middle transmitter sites (2 DVB-T multiplex: 88%)
1st December 2010: Further 7 main and middle transmitter sites + gapfillers (2 DVB-T multiplex: 95%)
1st December 2011: Further 3 main transmitter sites + gapfillers (2 DVB-T multiplex: 96%, DVB-H multiplex replaced by DVB-T: 85 %)
2012: gapfillers.

Complete analogue switch-off 31.12.2014 as the latest




## III. Digital Dividend

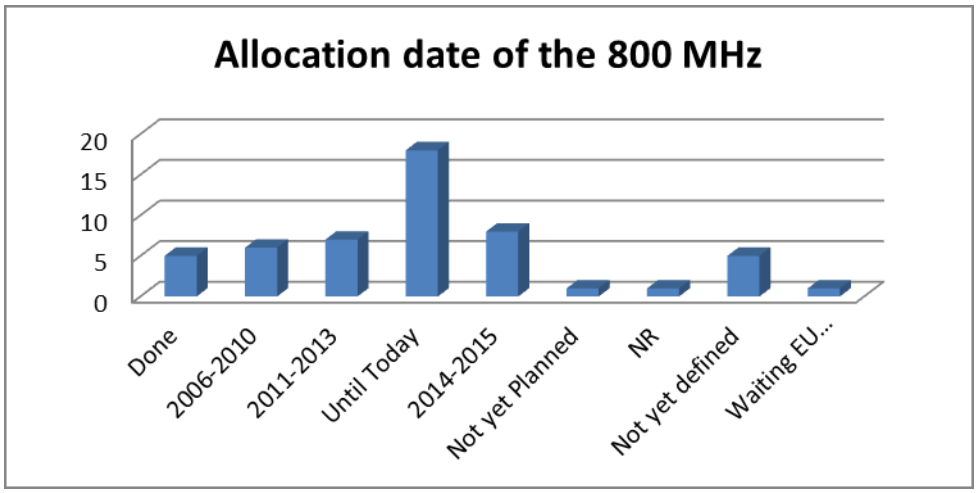
In many participating countries the 800 MHz digital dividend has been or is being allocated for mobile services. On the contrary, concerning the 700 MHz digital dividend band, the majority of countries have neither planned nor decided on what to do. Of the countries which have decided, three countries decided to use for DTT services, 1 for mobile services and 1 not DTT.

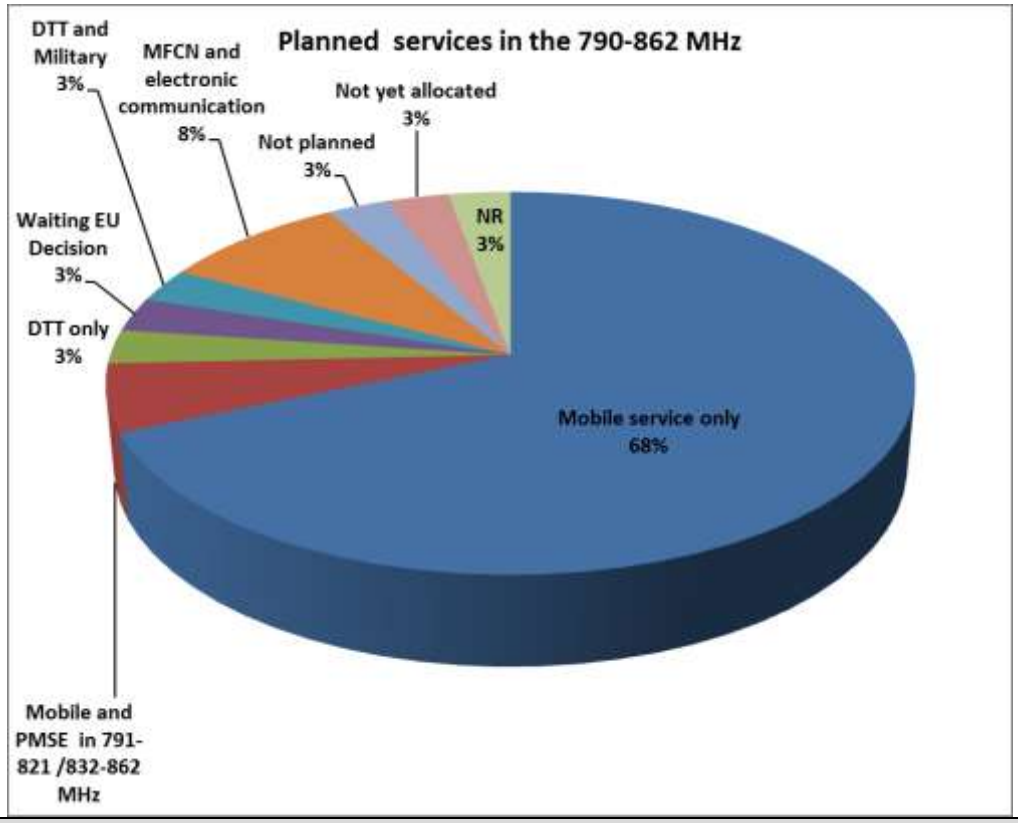
The first country allocated the 800 MHz digital dividend in 2006. To date 16 has completed the allocation. Seven more countries are to allocate by 2015.

Q13. Digital Dividend (800 MHz) spectrum allocation planned for which date and for which services? Which part of the band?

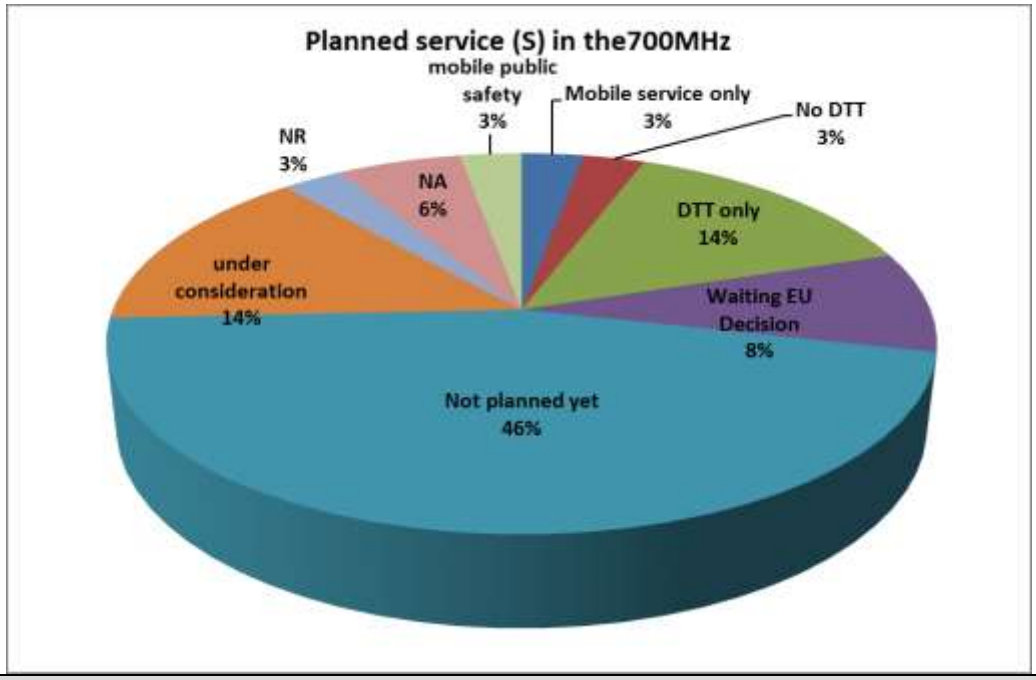
**Greece**:
The band of 800 MHz has been allocated for MOBILE SERVICE (NFAT). Derogation has been requested in EU for availability of the frequency band for digital dividend from 30/6/2014.

**Albania**:
The band 790-862 MHz, for mobile broadband services (TRA-ECS). IMT is considered as a part of TRA-ECS.
The date is to be decided by the progress of switch-off (Partial release of spectrum from analogue transmissions). The final (complete release of band from analogue) is June 2015. (To be decided by update of National Allocation Table)




| Q14. Digital Dividend (700 MHz) spectrum allocation planned for which date and for which services? Which part of the band? | |
|---|---|
| **Greece**:<br>Currently only for DTT Broadcasting | |




| Q15. Other Digital Dividend scenario (please describe) | |
|---|---|
| **Albania**:<br>To be decided in accordance with the switch-over advance and NTFA amendment | |

## IV. DTT Spectrum Licensing

In the majority of countries the licensing of network providers has been or is issued following beauty contest process. Only one country chose to use the auction process. In most countries, licences for network providers are issued on national basis. Licence duration ranges from 1 to 15 years. However, just over half of the participating countries did not provide the information on the licence duration..

Concerning spectrum licences, there appears to be an equal split between licensing per MUX and per layer. There is no criterion applied to assign the channel order of programs in a MUX. When there is a need (in 3 countries) beauty contest process is used.

Concerning spectrum fees, in most cases an one time or annual fees are applied. 7 countries do not impose spectrum fees.

The spectrum usage (MUX) is overwhelmingly based on the GE06 plan entries. In most cases, some roll out licence conditions such as must carry, coverage are imposed.

| Q16. Network Provider Licensing Process to be followed or have been followed (e.g. auction, beauty contest, other) | |
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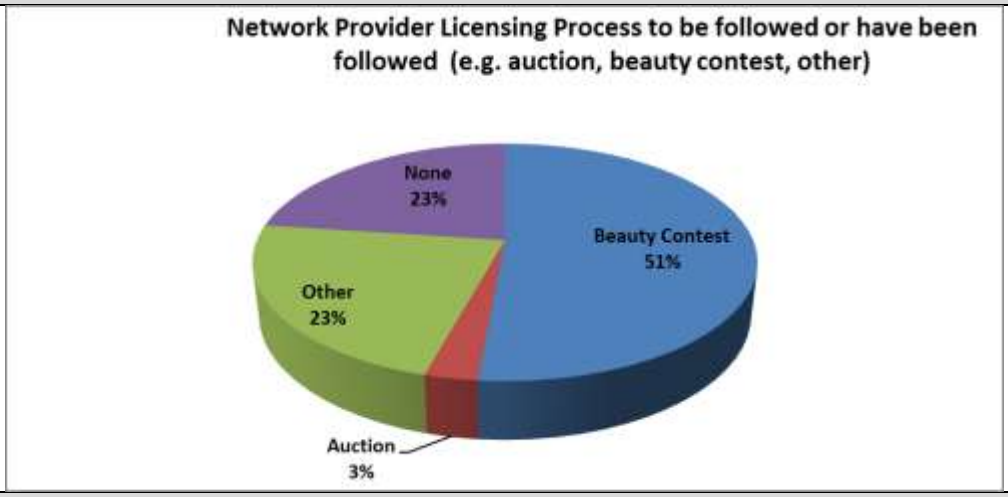
| **Czech Republic**:<br>Nationwide multiplexes:<br>• There are no plans to deploy new nationwide DTT networks.<br>• Existing DTT nationwide licenses had been transformed from former analogue transmission licenses. |  |



| Q17. Number of National Licensed Network Providers | |
|---|---|
| **Czech Republic**: | |

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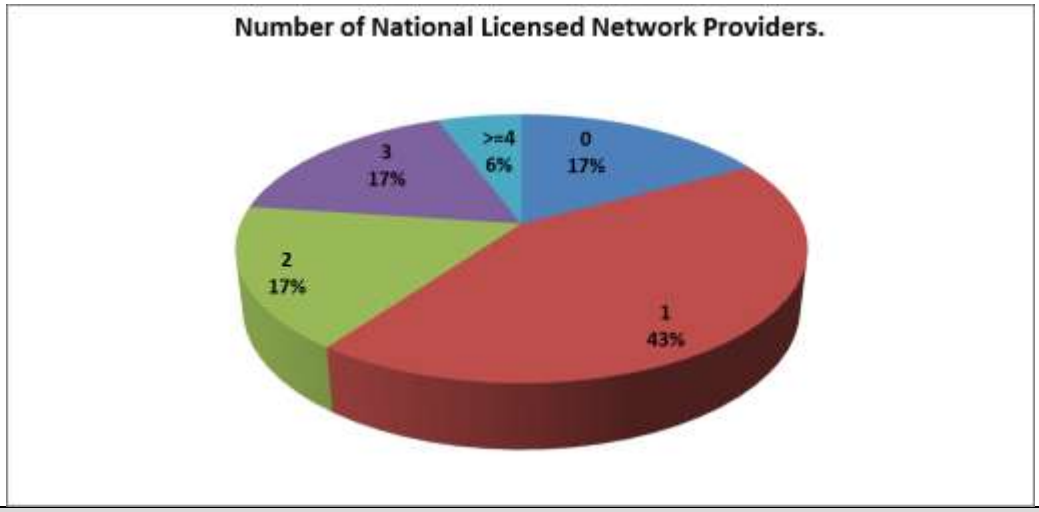
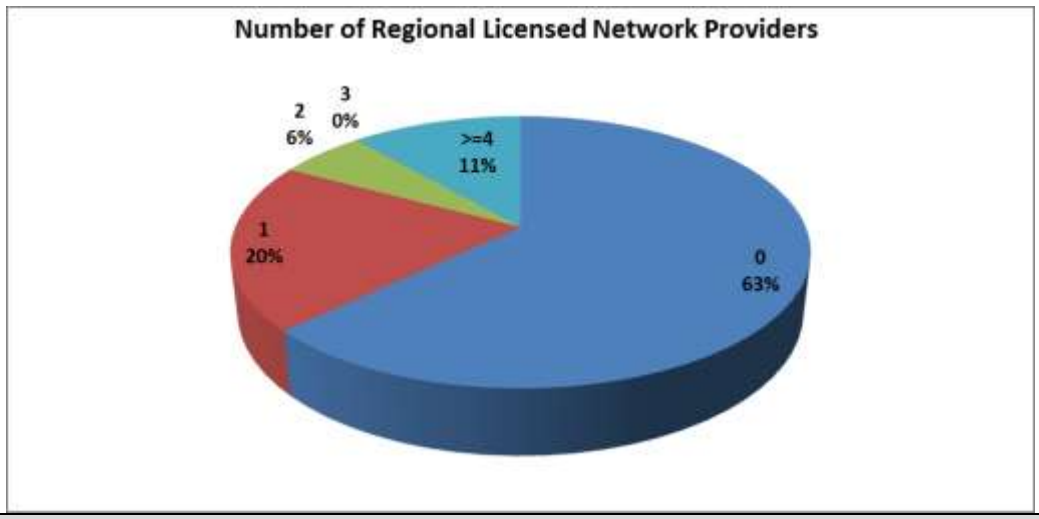
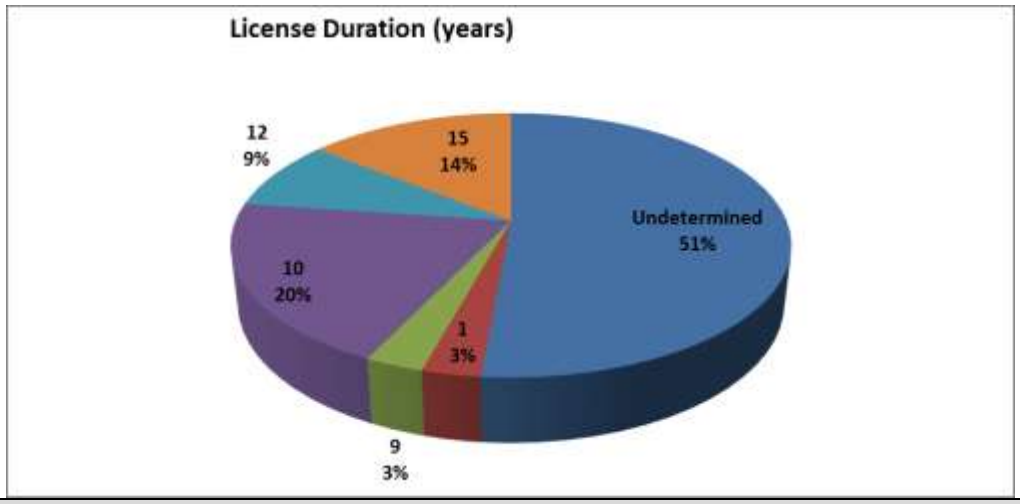
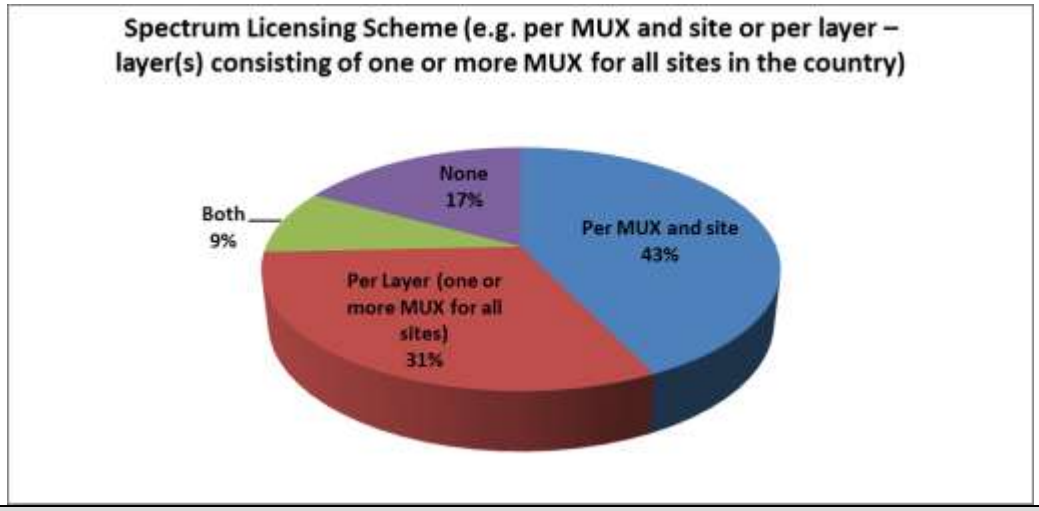
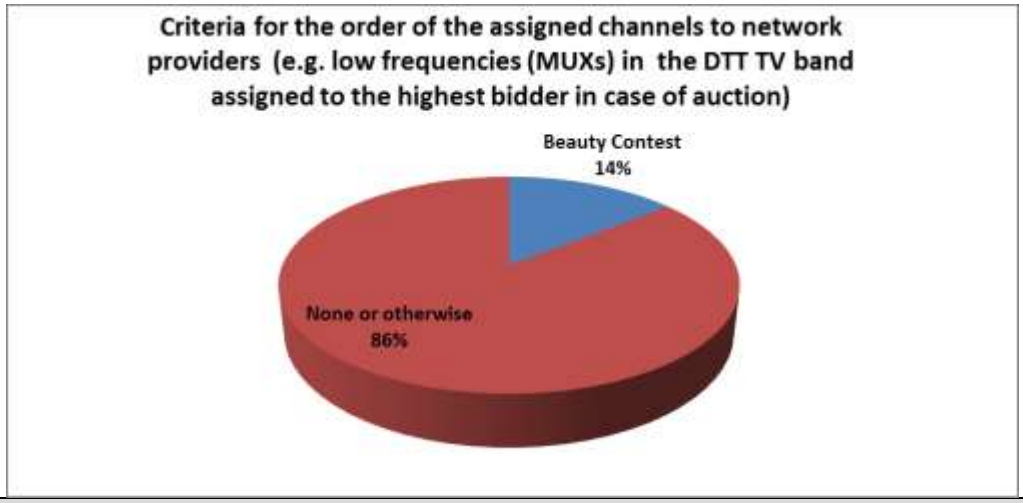
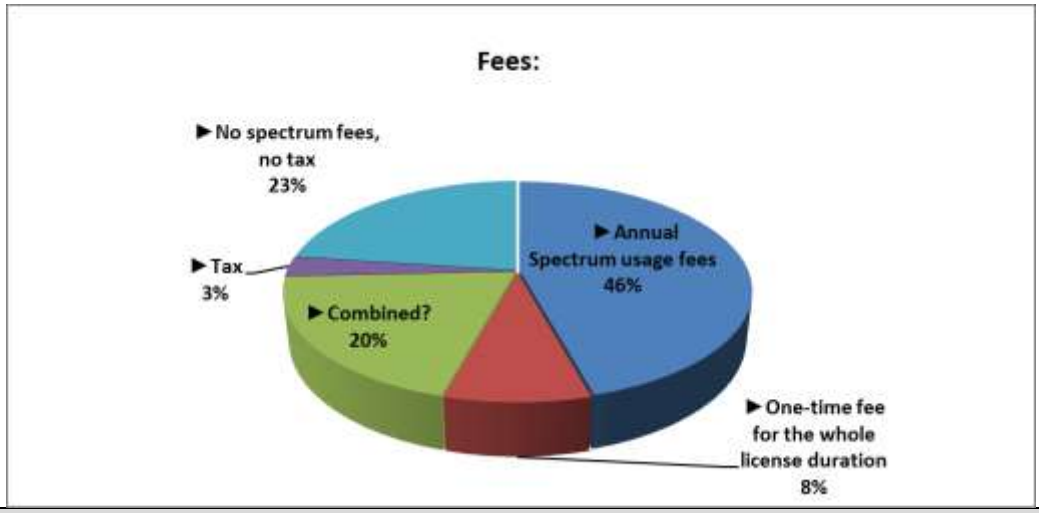
| 3 |  |
| Q17. Number of Regional Licensed Network Providers | |
| **Czech Republic**:<br>0 |  |
| Q18. License Duration | |
| **Czech Republic:**<br>National Providers: 2021 / 2022 / 2024<br>Local providers: No later than 31 December 2017 |  |
| Q19. Spectrum Licensing Scheme (e.g. per MUX and site or per layer – layer(s) consisting of one or more MUX for all sites in the country) | |
| **Czech Republic**:<br>Spectrum licenses are issued per layer followed by individual licenses for each site. | |




Q20. Criteria for the order of the assigned channels to network providers (e.g. low frequencies (MUXs) in the DTT TV band assigned to the highest bidder in case of auction)

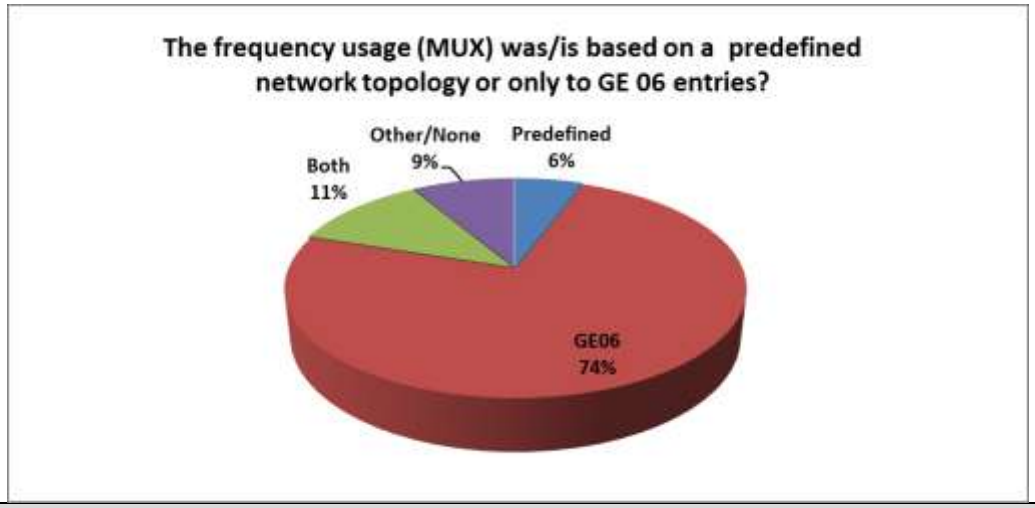



Q21. Fees: Annual spectrum usage fees or one time fee for the whole license duration or combined. If no spectrum fees, why?

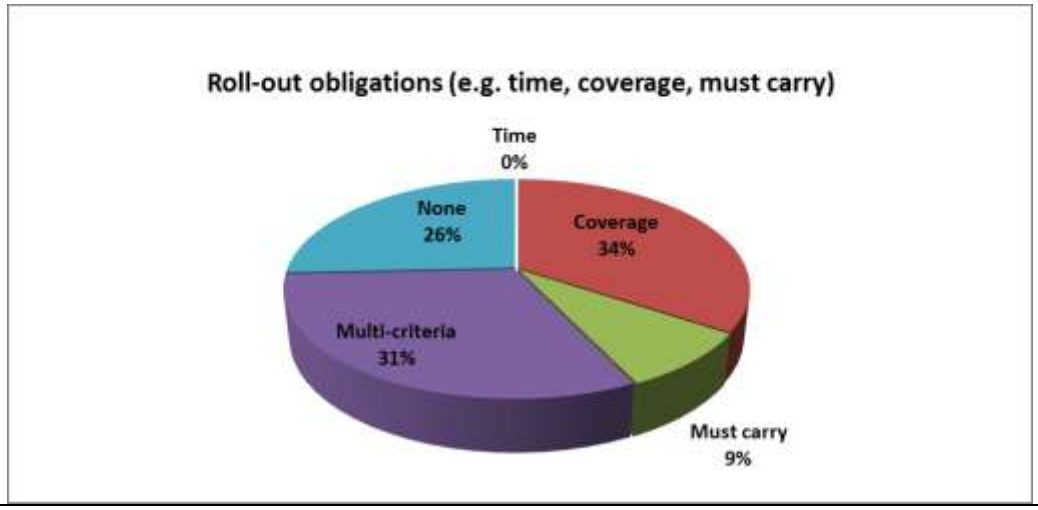



Q22. The frequency usage (MUX) was/is based on a predefined network topology (Digital Frequency Map) with specific characteristics (sites, eirp, antenna patterns, technology) or only to GE 06 entries (allotments or assignments)?

Please provide url of the Digital Frequency Map if published.



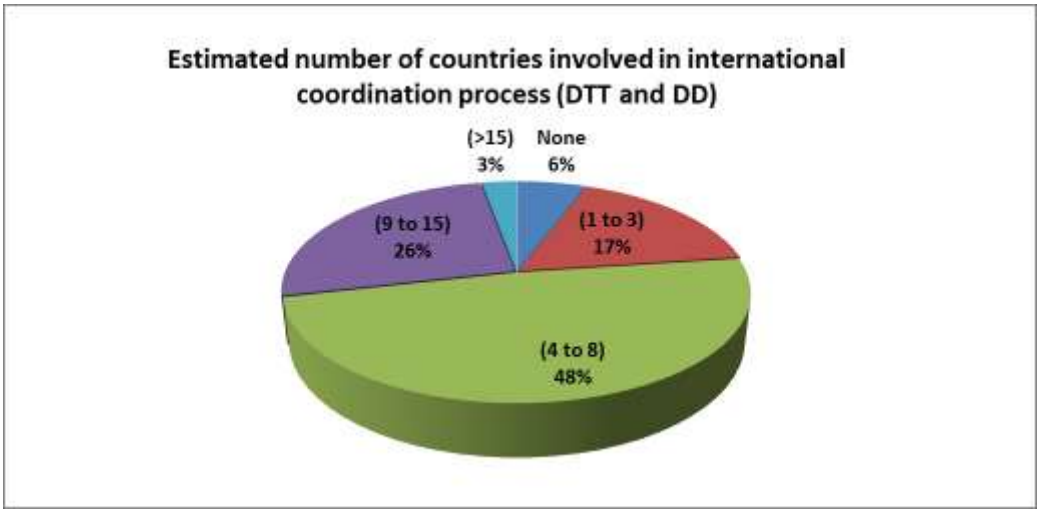

Q22. Roll-out obligations (e.g. time, coverage, must carry)




## V. International Coordination

The results indicate clearly that international coordination activities have already started in many European countries. The number of countries involved in international coordination process varies according to the number of countries that share borders.

Q23. Estimated number of countries involved in international coordination process (DTT and DD)



| Q24. Has the international coordination process started? | |
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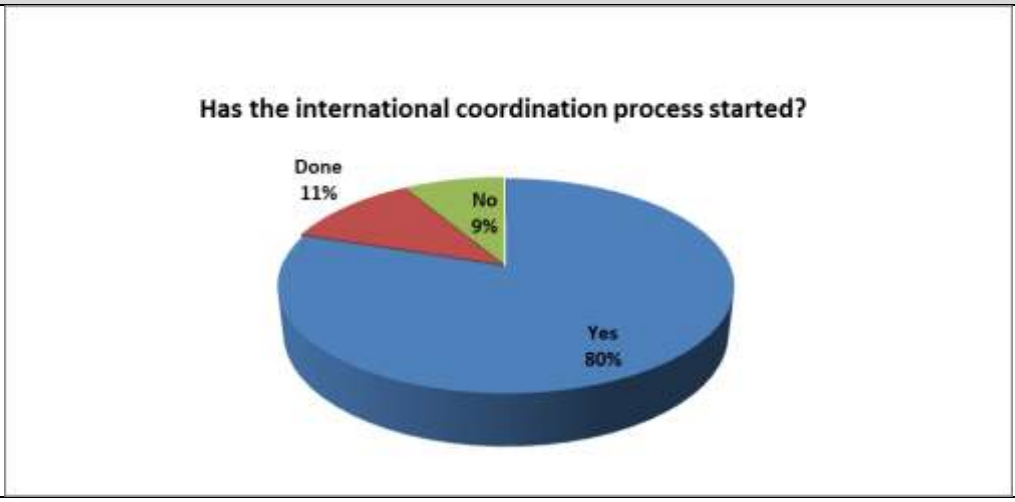
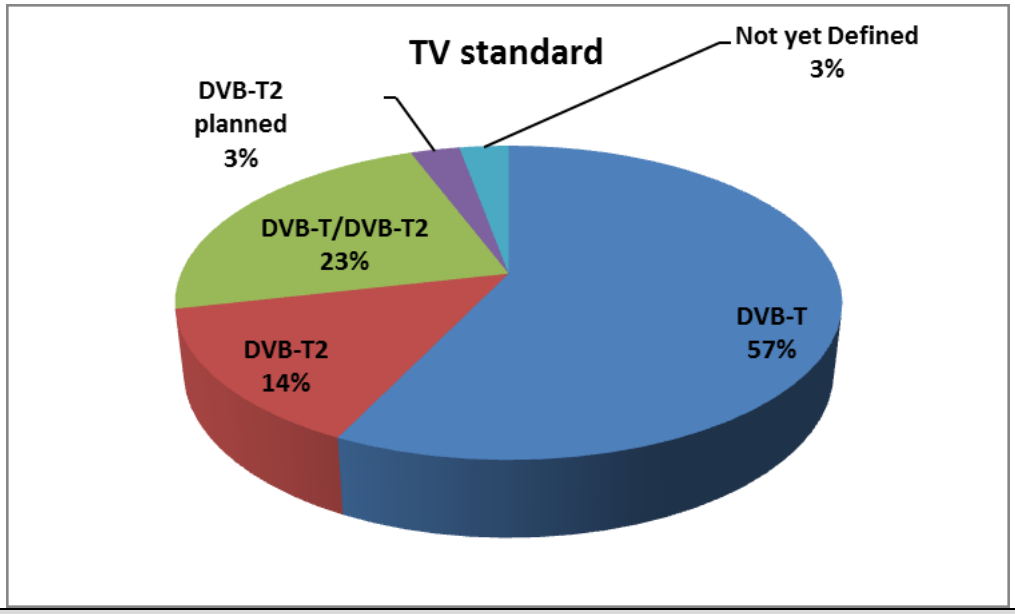
| |  |



## VI. DTT Technical

Over 50% of countries implemented DVB-T or a combination of DVB-T and DVB-T2. Only 3 countries started with DVB-T2. Over 50% chose MPEG-4. 10 countries uses both MPEG-2 and MPEG-4 and only 3 countries uses MPEG-2 the ones use DVB-T only). The number of sites varies naturally according to geographical sizes and terrain of the countries concerned. The majority of countries plan for 3 to 6 layers. 9 countries plan for 1 or 2 layers and 4 countries with 7 or more layers. Approximately 75% of countries select statistical multiplexing.

| Q25. Technology chosen (e.g. DVB-T or DVB-T2 or neutral) | |
|---|---|
| |  |



| Q26. Video coding chosen (e.g. MPEG-2 or MPEG-4 or neutral) | |
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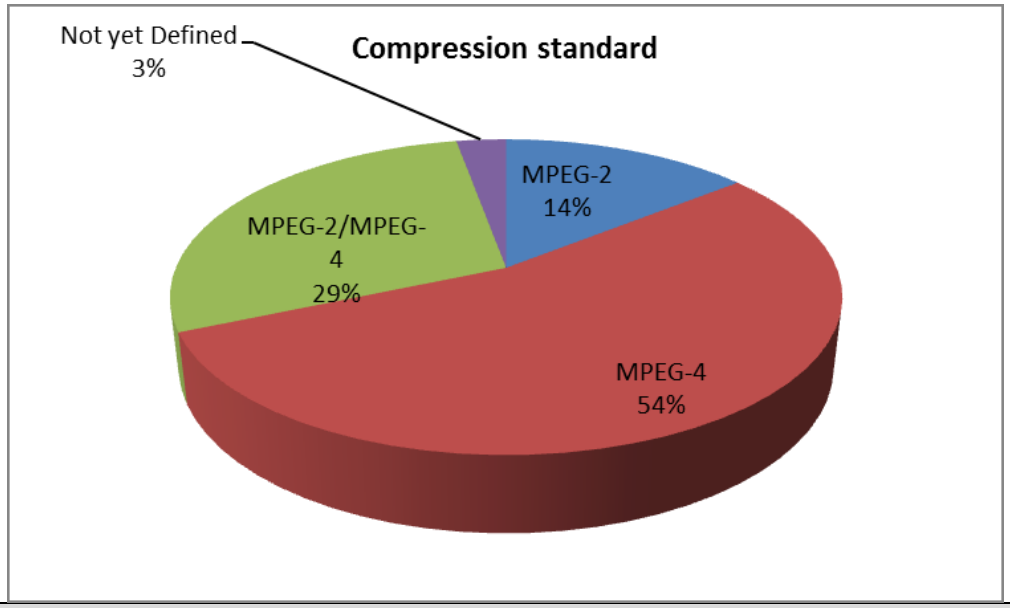
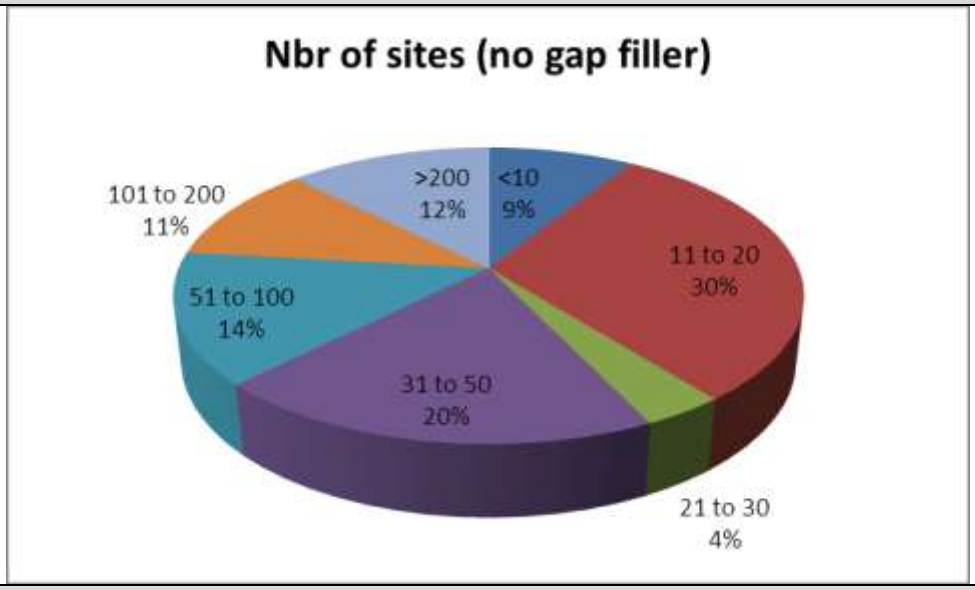
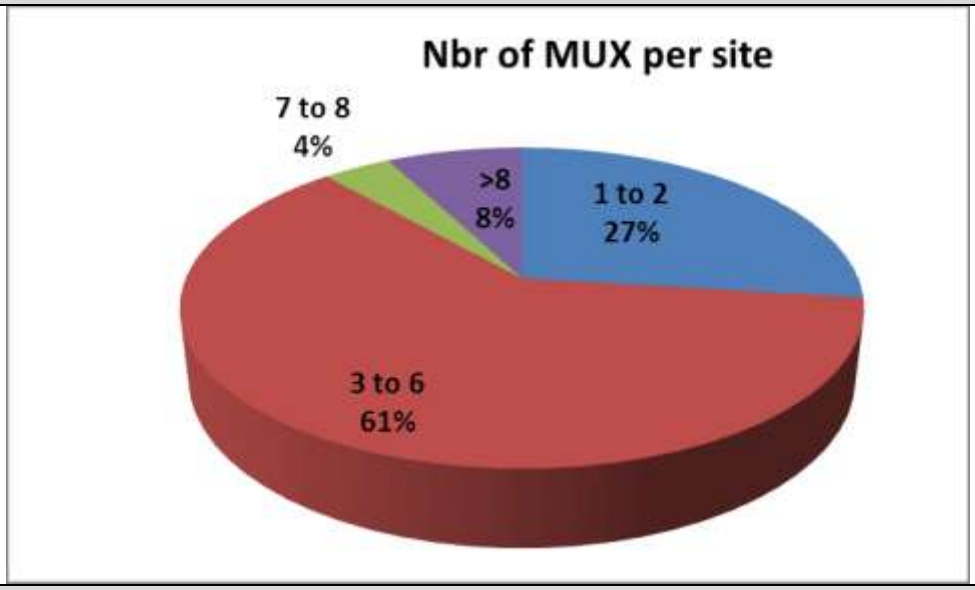



Q27. Number of sites (not including gap fillers)




Q28. Number of MUXs per site




Q29. Estimated coverage with above characteristics (terrain and/or population)

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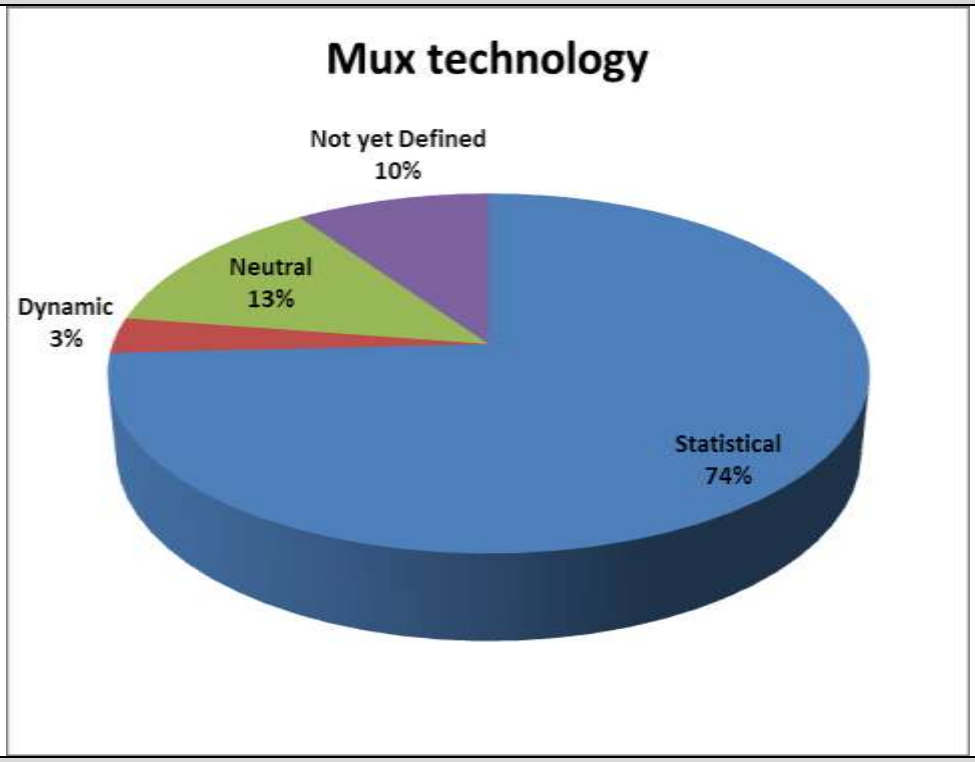
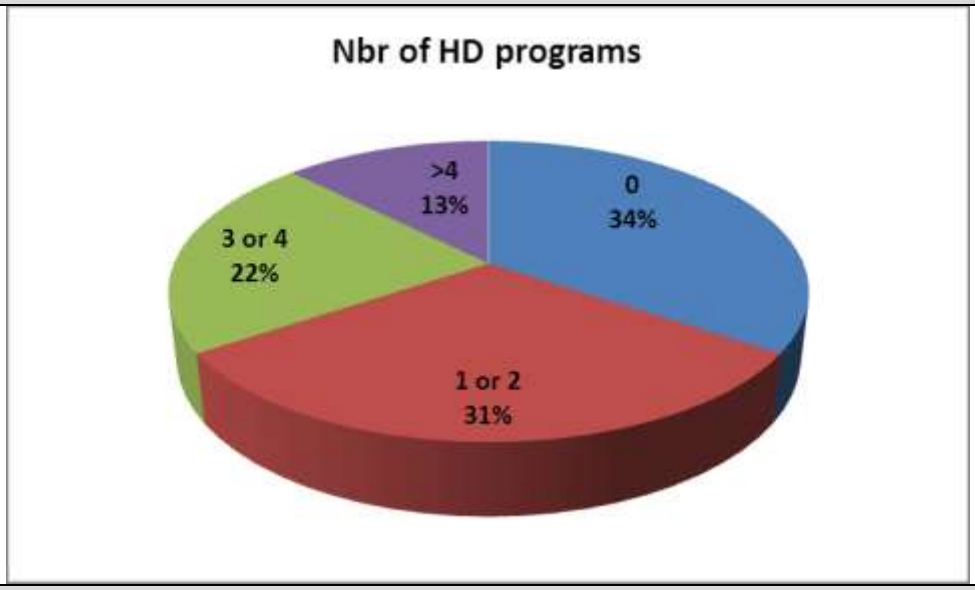
| Average digital coverage for the 35 countries | 95.05 % |

| Q30. Multiplexing technology chosen (statistical, dynamic or neutral) | |
|---|---|
| 31 Administrations replied |  |
| Q31. Bit Stream Payload (bit rate of MUX) | |
| **Switzerland**:<br>DVB-T and MPEG2, 16.6 Mb/s (public broadcaster)<br>26.4-31.7 Mb/s (private broadcasters) | For DVB-T and MPEG2, Bit stream payload ranges generally from 15 to 20 Mbps.<br>For DVB-T and MPEG4, Bit stream payload ranges generally from 22 to 25 Mbps. For DVB-T2 and MPEG2, Bit stream payload ranges generally from 32 to 36 Mbps. |
| Q32. Guidelines for Gap Filler technical characteristics (e.g. eirp, pattern, SFN or MFN) | |
| | Many countries indicated that gap fillers should be implemented as part of the SFN of the main stations. However, on two countries provided specific values of ERP: 22 and 30 dBW Few countries allowed gap fillers to operate on different frequencies from the main stations (MFN). |
| Q33. How many HD programs are there currently provided? | |
| |  |
| Q34. Is Mobile TV permitted in the license? If Yes, has it been deployed? | |
| **Norway:**<br>The license requires that 3 Multiplexes must be built with DTT technology. The license given by June 2006 | In nearly all countries mobile TV is permitted in the DTT licences, however, mobile TV has not been implemented. |

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| describes the limitations. No Mobile TV deployed so far.<br><br>**Poland**:<br>Yes; The spectrum license for MUX4 is dedicated for mobile TV;<br>There is no restriction in licenses for MUX1,2 and 3 to implement mobile receiving modes | |

## VII. Others

| Q35. Have you adopted a recycling scheme for obsolete analogue equipment (e.g. TV sets and Broadcasting equipment)? Please describe | |
|---|---|
| **Austria**:<br>No scheme from the Authority adopted. This is the business of the operator<br><br>**Denmark**:<br>Yes. Industry is mandated by law to recycle obsolete electronic equipment, such as old analogue TV-sets. Industry has formed a common association called Elretur handling the practical recycling task: http://www.elretur.dk<br><br>**Norway**:<br>Yes, since 2001 we have a system for recycling of electronic devices. Retailers are also obliged to collect old equipment from their customers (About 2500 places). 80-90 % of returned analogue equipment is reused | Almost all counties have adopted some form of recycling scheme for obsolete analogue equipment. In some countries it's the responsibility of the operators for implementing such a scheme. |
| Q36. Wireless microphones usage (e.g. dedicated MUX or in secondary basis or under license or different band) | |
| **Norway**:<br>Wireless microphones may use white spots in the frequency range 470-510MHz. License is needed. Wireless microphones may also use which spots in the frequency range 510-790MHz. Max ERP 50mW. (Regulations providing general authorizations for the use of radio frequencies.) License is not needed. Spectrum availability might be found | In many countries the usage of wireless microphones is licensed on secondary basis. |

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| in a web page: http://www.finnsenderen.no/finnsender<br><br>**Slovakia**:<br>Wireless microphones may be operated on the basis of the general authorisation for the use of frequencies in specified frequency bands Wireless microphones may also be operated in the frequency band 470-790 MHz on the basis of the individual authorisation for the use of frequencies under the condition of not causing unacceptable interference to, and not claiming protection from operation of DTT networks (secondary service) | |
| Q37. Are there any other plans for the future? | |
| **Denmark**:<br>An additional DTT multiplex will be introduced in the VHF band.<br><br>**Finland**:<br>DVB-T2 transition in 2017, partial UHF band re-planning under 700 MHz band needed. | In many countries future plans are under consideration.. |
| Q38. Any regulation for EMF (electromagnetic radiation)? If yes and exists, relevant URL | |
| **Bulgaria**:<br>In accordance with the Technical requirements for operation of the electronic communications networks of the broadcasting service and the related equipment, the transmitting equipment should conform to the requirements of Ordinance No 9 of 1991 for the maximum levels of electromagnetic fields in populated areas and definition of the sanitary zones around emitting objects.<br><br>**Czech Rep**:<br>EIRP powers are subject of international coordination. As for EMC issue, all relevant EMC standards should be obeyed. Health issue is subject of ICNIRP standards.<br><br>**Denmark**:<br>Yes. The EMC directive (2004/108/EC) is implemented in the national legislation. | In general, ETSI standards are in force and included as licence conditions in some countries.<br><br>Relevant URL<br><br>Belgium http://www.issep.be/page.asp?id=164&langue=FR<br><br>Bosnia www.rak.ba<br><br>Croatia http://narodne-novine.nn.hr/clanci/sluzbeni/2011_08_98_2036.html<br><br>Denmark https://www.retsinformation.dk/forms/r0710.aspx?id=29325<br><br>Estonia https://www.riigiteataja.ee/akt/163816<br><br>Finland http://ec.europa.eu/enterprise/sectors/ electrical/documents/emc/legislation/<br><br>Greece http://www.eeae.gr<br><br>Hungary http://www.njt.hu/cgi_bin/njt_doc.cgi?docid=84814.118610<br><br>Ireland www.comreg.ie<br><br>Israel http://old.sviva.gov.il/bin/en.jsp?enPage=e_BlankPage&enDisplay=view&enDispWhat=Zone&enDispWho=legal_&enZone=legal_<br><br>Liechtenstein http://www.avw.llv.li/<br><br>Poland http://www.en.uke.gov.pl/files/?id_plik=63 |

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| https://www.retsinformation.dk/forms/r0710.aspx?id=29325 | Portugal http://www.anacom.pt/streaming/Regulamento86_2007.pdf?<br><br>Romania http://www.ancom.org.ro<br><br>Slovakia http://www.uvzsr.sk/docs/leg/534_2007_elmag_ziarenie.pdf |

## ANNEX 1

## CONTACT DETAILS FOR THE PARTICIPATING ADMINISTRATIONS

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| Albania | Minister of Innovation and ICT,<br>The National Council on Radio Television,<br>sidrit.malevi@km.gov.al |
| Andorra | Servei de Telecomunicacions d'Andorra,<br>jaume.salvat@sta.ad,<br>www.andorratelecom.ad |
| AUSTRIA | RTR-GmbH, peter.reindl@rtr.at<br>franz.ziegelwanger@bmvit.gv.at<br>www.rtr.at |
| Bosnia and Herzegovina | Communication Regulatory Agency, Frequency Spectrum Management/Broadcasting Division ,<br>Siniša Petrović, Director of Frequency Spectrum Management<br>spetrovic@rak.ba<br>Helena Mandić, Director of Broadcasting<br>hmandic@rak.ba<br>www.rak.ba |
| Belgium – Flemish Community | Belgian Institute for Postal services and Telecommunications<br>Patrick van der Gracht<br>Patrick.vandergracht@cjsm.vlaanderen.be<br>www.cjsm.be |
| Belgium – German-speaking Community | Belgian Institute for Postal services and Telecommunications<br>Alfred Belleflamme<br>alfred.belleflamme@dgov.be<br>http://bipt.be/ |
| Bulgaria | Ministry of Transport, Information Technology and Communications (MTITC)<br>Mrs. Kalina Dimitrova, Director of "Communications" Directorate<br>kivanova@mtitc.government.bg |

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| | www.mtitc.government.bg □ |
| Croatia | Croatian Post and Electronic Communications Agency,<br>BCTV@hakom.hr,<br>www.hakom.hr |
| Czech Republic | Czech Telecommunication Office,<br>Mr. Petr Zeman<br>zemanp@ctu.cz<br>www.ctu.cz |
| Denmark | Danish Business Authority,<br>jeskje@erst.dk,<br>http://www.erhvervsstyrelsen.dk/ |
| Estonia | Estonian Technical Surveillance Authority,<br>Vladimir Jakovlev.<br>Vladimir.Jakovlev@tja.ee,<br>http://www.tja.ee/en |
| Finland | Finnish Communications Regulatory Authority (FICORA),<br>suvi.juurakko@ficora.fi |
| Greece | • Ministry for Development, Competitiveness, Infrastructure, Transport and Networks<br>General Directorate of Telecommunications and Posts<br>Directorate of Administration and Control of Radio Frequency Spectrum<br>i.tsanis@yme.gov.gr, s.chatz@yme.gov.gr, e.bakali@yme.gov.gr<br>www.yme.gov.gr<br>• Hellenic Telecommunication and Post Commission (EETT)<br>Spectrum Directorate<br>hgeronimakis@eett.gr, cbakalis@eett.gr<br>www.eett.gr<br>• Greek National Council for Radio and Television (NCRTV)<br>ncrtv@otenet.gr<br>www.esr.gr |

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| Hungary | National Media and Infocommunications Authority,<br>kissne@nmhh.hu,<br><br>www.nmhh.hu |
| Hungary | Antenna Hungaria Ltd., National Media and Infocommunications Authority of Hungary (NMHH),<br><br>György Sogrik<br>sogrikgy@ahrt.hu<br>www.ahrt.hu |
| IRELAND | Department of Communications Energy and Natural Resources (DCENR) ,<br><br>susan.fleming@dcenr.gov.ie,<br><br>www.dcenr.ie |
| Israel | Ministry of Communications,<br><br>Dr. Haim Mazar;<br><br>Mr. Hezi Naor<br>mazarh@moc.gov.il ;<br><br>naorh@moc.gov.il<br>http://www.moc.gov.il/130-en/MOC.aspx |
| Latvia | Ministry of Transport<br>State JSC “Electronic Communications Office”<br>Edmunds Beļskis, Director of Communications department,<br><br>Edmunds.Belskis@sam.gov.lv<br>http://www.sam.gov.lv<br>http://www.vases.lv |
| Liechtenstein | Office for Communications<br><br>Mr. German Bell (german.bell@llv.li)<br><br>Mr. Farshad Hosseini (fari.hosseini@llv.li)<br><br>www.ak.llv.li |
| Lithuania | Communications Regulatory Authority of the Republic of Lithuania,<br><br>Kęstutis BUDRYS,<br><br>kestutis.budrys@rrt.lt, www.rrt.lt |
| Luxembourg | Luxembourg Ministry of State, Media and Communications Department, |

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| | Anne Blau<br>Anne.blau@smc.etat.lu<br>www.mediacom.public.lu |
| Malta | Malta Communications Authority,<br>info@mca.org.mt,<br>www.mca.org.mt |
| Monaco | Ministry of State - Principality of Monaco, Direction des Communications Electroniques (Electronic Communication Dept),<br>srobillard@gouv.mc<br>frue@gouv.mc<br>www.gouv.mc |
| Montenegro | Agency for Electronic Communications and Postal Services<br>Boris Jevric, Deputy Executive Director, Head of Radiocommunications Department<br>ekip@ekip.me<br>www.ekip.me |
| Netherlands | Radio Agency<br>agentschaptelecom@agentschaptelecom.nl,<br>http://www.rijksoverheid.nl/ministeries/ez<br>http://www.agentschaptelecom.nl/ |
| Norway | Norwegian Post and Telecommunications Authority,<br>firmapost@npt.no,<br>http://www.npt.no/ |
| Poland | Ministry of Administration and Digitization / Office of Electronic Communications<br>Tymoteusz.kurpeta@mac.gov.pl<br>www.mac.gov.pl / www.uke.gov.pl □ |
| Portugal | ICP-ANACOM, Mr José Barros<br>Jose.barros@anacom.pt<br>www.anacom.pt |
| Romania | Ministry for Informatics Society ,<br>http://www.msinf.ro/ |
| Serbia | Ministry of Foreign and Internal Trade and Telecommunications, Republic of Serbia,<br>irini.reljin@digitalnaagenda.gov.rs; |

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| | irini.reljin@mtt.gov.rs;<br>http://www.mtt.gov.rs/ |
| Slovak Republic | Ministry of Transport, Construction and Regional Development of the Slovak Republic and Telecommunications Office of the Slovak Republic,<br>pavol.gerhat@mindop.sk,<br>http://www.telecom.gov.sk/index/index.php?ids=281&lang=en |
| Slovenia | APEK,<br>Igor.funa@apek.si,<br>http://www.apek.si/ |
| Switzerland (Confederation of) | Federal Office of Communications,<br>Alexandre Kholod,<br>alexandre.kholod@bakom.admin.ch,<br>www.ofcom.ch |
| FYR Macedonia | Agency for Electronic Communications of the Republic of Macedonia,<br>Agency for Electronic Communications, Biljana.Ilieva@aec.mk<br>Lidija.Paunovska@aec.mk<br>www.aec.mk |
| Turkey | Radio and Television Supreme Council (RTUK)<br>Information and Communications Technologies Authority (ICTA)<br>Abdullah KARAKAS (akarakas@btk.gov.tr)<br>Muhsin KILIC (muhsinkilic@rtuk.gov.tr)<br>www.btk.gov.tr<br>www.rtuk.gov.tr |
| UK | Ofcom,<br>Stephen.Ripley@ofcom.org.uk,<br>www.ofcom.org.uk |
| VATICAN CITY STATE | Governatorato SCV,<br>dirtecsmg@vatiradio.va |