WG II: Current Status & Problems of Digital TV and Radio Implementation
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This paper suggests discussion points for the working group and provides links to documents and data of potential interest to the participants.

The Digital Switch-Over Process

The pressure has increased for those countries not yet on board the digital train. In the European Commission Communication of 2005 *(COM(2005) 204) on accelerating the transition from analogue to digital broadcasting*, the Commission noted that digital broadcasting would lead to consumer benefits: increased choice, improved quality, enhanced information and service. In this communication it also stressed the need for a switchover deadline due to the fragmented digital television market and the need to ensure legal certainty for market players. The proposed deadline is 2012 and it is expected that all countries will be well on the way by 2010. For some, notably the Netherlands (the first country in the world) and also Finland, switch-off has already taken place, in December 2006, and September 2007 respectively. The scarcity of spectrum in the analogue world is placed under more pressure during the transition towards switch-off as both systems are being simulcast in parallel. The duration of this period is therefore crucial and the rapid take-up of services after launch needs to be encouraged, while the levels of such scarcity do however vary from country to country. The main concerns for authorities include reaching maximum potential coverage, and ensuring access for households normally dependent on analogue terrestrial reception. The international allocation of spectrum, and plans for the co-existence of analogue and digital transmission during transition was decided at the RRC 06 (Regional Radio Conference of the International Telecommunications Union 2006). This provided countries with the possibility to develop strategy on spectrum allocation. The upcoming ITU World Radio Conference 2007 (October 22 to November 16), will decide on the broad regulatory environment for the use of the frequencies. [1]

Table 1.Target dates for analogue broadcasting switch-off in Europe

Switch-off already completed	Certain regions in **Germany** (since August 2003), certain regions in **Sweden** (since 2005)**, Luxemburg** (1.9.2006), **Netherlands** (11.12.2006), certain regions in **Switzerland** (Ticino, 24.7.2006, Engadine, 13.11.2006) **Finland** (September 2007)**,**
By end 2010	**Austria** (2010)**, Germany** (2007), **Belgium** (Flemish Community, 2010), **Denmark** (2009) **Spain** (2008 for Catalonia, 2010 for the rest of Spain), **Italy** (with a review expected, however, of the initial deadline at end 2006, first regional switch-off in Sardinia scheduled March 2007), **Malta, Sweden** (2008), **Switzerland** (2009), **Norway** (2009)
Between 2011 and end 2012 at the latest	**Estonia** (2012)**, Hungary** (2012)**, France** (30.11.2011)**, Latvia** (2011)**, Portugal** (2012)**, Czech Republic** (2012), **United Kingdom** (gradual switch-off by regions, 2008-2012)**, Slovenia (**2012**), Slovakia** (2012) **Bulgaria** (2012)
Beyond 2012	**Poland, Ireland, Cyprus, Greece** (2015)**, Lithuania** (2015), **Poland** (2014), **Russian Federation** (target : 2015)

Undecided: Bulgaria, French-speaking Community of Belgium, Croatia, Romania
Source: European Audiovisual Observatory Yearbook 2006: Table reproduced by kind permission of the European Audiovisual Observatory, slightly adjusted in relation to recent developments.

[1] This is dealt with in more detail on the background paper for the Second Plenary Session on Regulatory Challenges for the Future.

What planning and strategy is needed to fulfil the obligation to switch off on proposed dates? How is this affected by the structure of the market: penetration of other digital platforms, reliance on terrestrial analogue, low development of cable infrastructure etc.?

Table.2 Take-up of digital TV services in a selection of countries to Q3 2005

Country	**DVB-C Pay**	**DVB-S Pay and free**	**DTT Pay and free**	**IPTV DSL and LAN**	**Total**
Austria	2%	7.2%	0%	0%	9.2%
Denmark	5.6%	13.7%	0%	0%	19.4%
Finland	5.8%	2.8%	33.1%	0%	41.6%
France *End 2006*	3.8%	16%	2.6% 14.8%	3.1%	25.5%
Germany *July 2007*	5.6% *.8.7%*	6.3%* *24.4%*	6.4% *9.9%*	0% n/a	18.3% 39.9%
Greece	0%	5.7%	0%	0%	5.7%
Ireland	12.5%	26.6%	0%	0%	39.1%
Italy	0%	15.1%	14.5%	1.1%	30.7%
Netherlands	2.7%	8.2%	2.2%	0%	13.1%
Poland	.3%	9.5%	0%	0%	9.8%
Portugal	8.4%	7.6%	0%	0%	18%
Spain	.4.9%	12.8%	0%	.6%	18.3%
Sweden	6%	13.5%	10.7%	.29%	30.4%
UK *March 2007*	10.7%	23.4%	23.3% *33%*	.2%	66.6% *80.5%*

Data from Q3 of 2005 from European Commission (2006)[2], which details status in EU member states (only those over 5% included here), supplemented in some cases by more recent country data. See also Ofcom Communications Market Report, and the ALM Digitisation of the German Television Market Report. * German data for 2005 is considerably different in ALM report, with DVB-S at 16.7%. Updated French data for DTT courtesy of the CSA:

Presumably take-up has developed considerably since the end of 2005 (see changes for Germany and the UK, and French DTT), however this overview is useful for seeing the countries with highest development of digital uptake: the UK and Finland, followed by Italy and Sweden due to a very high roll-out and uptake of DTT; and Ireland, followed by France then Portugal and Spain with relatively high take up based more on subscription (cable or satellite) services; and Germany where digital satellite is significant. These patterns are likely to shift and bring a wider range of countries into play in the next three years or so, given the commitments to switch-off outlined in table 1. With regard to IPTV, the table does not reflect well the development of IPTV services in many countries: for example, France with six services and an estimated combined subscriber figure for the biggest three of about 2.3m.[3]

In its Communication *on the transition from analogue to digital broadcasting* (EC 2003) the European noted three phases in digital switchover: "the take-up phase driven by pay-TV, where sooner or later operators convert subscribers to digital; the consolidation phase, starting now in the countries where digital TV is the most advanced, where some consumers decide to equip themselves with digital devices to receive free-to-air digital TV; the closure phase, where users still not interested in any type of digital TV are forced to adopt it, with or without public support for the acquisition of a digital receiver".

Is this assessment still accurate with regard to current developments? What factors have led to delays in implementation of digital broadcasting: delays in legislation, development of infrastructure, or costs and economic issues? What strategies are needed to push the process forward?

[2] If members wish to provide more recent breakdown on share of platforms, I would be happy to update.
[3] According to recent figures from France Telecom, Neuf Telecom, and Free Telecom.

Digital Radio
The main reception of Digital Audio broadcasting currently takes place over the Internet or as part of the package in DTT services. Digital receiver equipment is not widespread. Important issues include the development of, and decisions on, standards (DAB, DAB+, DRM)[4], investment issues and coverage problems. The recent report of the European Broadcasting Union (2007) outlined the current developments and trends and the sector:

- Analogue switch-over for radio is not realistic in the near future, with indications that FM will persist beyond 2020 in most markets.
- In terms of investment "DAB transmission was widely considered as expensive and uneconomic especially for commercial and community stations, when the costs were compared to analogue transmission or to alternative digital broadcasting systems".
- There are also problems with regard to coverage with DAB according to experts in the UK and Denmark who claim that "community radio and small commercial stations were not suited to the existing coverage patterns of DAB multiplexes".
- The majority of DRM content today is supplied by PSBs, who strongly support the standard, while countries with a significant investment in DAB will proceed with DAB. The report notes that "the emergence of new standards may create confusion and disrupt digital radio implementation in some countries as regulators and planners re-evaluate the potential of each technology".
- As regards the advancement of digital radio broadcasting the study concluded that this has happened in the countries where public service broadcasters have been crucial in relation to both the development and the take up and success of both DAB/DAB+ and DRM technologies.
- The report also expresses concern that "without a dedicated transmission network, radio may risk being subsumed by other platforms dominated by television or other services. Radio broadcasts may lose prominence if offered as a supplementary service by aggregators controlling the menus, EPGs, and technical parameters of transmission".

Establishment of Special Organisations/Authorities/Working groups
Organisations with the remit of pushing forward, planning and coordinating the implementation of digital broadcasting could be considered as vital in overcoming problems of implementation. Various organisations have been established in different countries: the Digital Platform Austria set up by the Austrian Federal Chancellery supports KommAustria in compiling a Digitization Concept for the introduction of digital broadcasting; the Swedish Digital TV Commission, an independent authority appointed by government is responsible for to planning, coordinating, providing information to the public and reporting on the switchover. The UK Digital Television Project, the German TV Platform, the French public interest group, *France Télé Numérique*, (see also details under "issues of public awareness" below) and the Italian joint industry/government/ regulatory committee *Italia Digitale* are further examples. Working groups, forums of committees have also been established in Cyprus, Bosnia and Herzegovina, and Bulgaria.

Are there plans to, and is there a need to, establish separate authorities or organisations for co-ordinating regulation, planning and development of digital broadcasting? How should they be organised and what role should there be for industry stakeholders and consumers?

[4] DAB is a method for the digital transmission of radio signals for mobile reception, developed by EUREKA project 147. DAB$^+$ is an additional audio codec for 'Digital Audio Broadcasting'. The DRM standard, which is complimentary to Digital Audio Broadcasting (DAB), digitises the Long Wave, Medium Wave, and Short Wave frequencies providing near FM-quality reception.

The Industry: Framework for Licensing and Development of different Forms of Digital Broadcasting over different Platforms

Much new legislation has been introduced over the last year aimed at creating and developing the framework for the digital transition: new media laws in Portugal, Hungary, Albania, Ireland, Slovakia, the Czech Republic. In the case of France with the "law on television of the future" and the upcoming amendment of German law taking further steps in developing the roll-out of new platforms and services.

There exits a range of challenges that need to be addressed, and regulatory development carried out, with relation to the development of digital broadcasting on a variety of platforms:

- "Must carry" issues with regard to various platforms. The EC Communication (2007) on mobile broadcasting called for a light-touch regulatory environment, with particular reference to obligations such as must-carry obligations and '*other traditional broadcast obligations*' whereby these should not be imposed on new services. France has already introduced must-carry obligations for mobile television operators. In Germany current proposals to do so are being criticised by industry groups representing IPTV and mobile broadcasting ventures.
- Spectrum allocation plans for DVB-T Multiplexes, for mobile broadcasting (DVBH, DMB), for other interactive services and innovative services. The European Commission Communication of July 2007 on mobile television (over terrestrial broadcast networks) strongly recommended that DVB-H should be used as the single standard in the EU, and claims that the Commission could take steps to make the standard mandatory by mid 2008. Has DVB-H been set as standard for mobile broadcasting (as in France), or will other standards continue? (In Germany DMB tenders were organised before DVB-H and such services are running).
- Are frequencies for mobile broadcasting DVB-H restricted to broadcasters (in France up to 2010) or open to tender for both broadcasting and telecommunications organisations (as in Germany)?
- High Definition Television (HDTV) service and issues of capacity limitations. Plans for allocating spectrum space for, and licensing of, HDTV services (as recently consulted in France), establishment of committee on HDTV in Spain to look at technical issues and the development of such services on all platforms.
- Establishing parameters and rules for EPGs, numbering and thematic organisation of channels in EPGs (being addressed via consultation in France and Germany).

Other consultations under way include the following:

- Consultations on mobile broadcasting concerning issues such as content matters, business models, conditional access systems and interactivity of devices, and coverage obligations (such as France CSA, 2007).
- Reservation of spectrum, caps on scarcity use for certain services such as Internet, telecoms services, HDTV, interactive television etc. are being examined.
- The potential use of the "digital dividend" is also an issue where some countries have developed advanced discussions and consultations, in particular in the UK.[5] A common position on the future use of spectrum has been published by the ALM and the Public Service Broadcasters as part of on-going discussions in Germany. To what extent should such decisions be made sooner rather than later in order that the industry can better assess their potential future digital strategies?

Are the parameters for establishing licensing frameworks defined in legislation? as a result of consultation or not? What strategies plans or consultations are necessary for the development of all platforms? Roll-out of services is the last step in the process following

[5] This issue is dealt with in greater detail in the Background paper for the Second Plenary session on Regulatory Challenges of the Future.

licensing, which is preceded by consultation on, and legislation of, the framework: will those countries lagging behind in development have the time to effectively implement this process and still meet switch-off deadlines?

The consumer: Issues of public awareness and costs

A central factor in the successful roll-out of services, and switch-off of analogue television concerns how prepared the public is for these developments. The Ofcom (UK) operates a digital tracking system that involves surveying the population (2400 TV households) with regard to knowledge of, and preparation for, switch-off. The latest report shows *inter alia* that: 50% of households surveyed reported that all their television sets were digital; 87% of respondents were aware of switchover; 66% understood how to prepare for switchover. Public awareness is part of the role of an independent non-profit organisation Digital UK (under the Digital Television Project), at the request of the government. It is owned by the public service broadcasters (BBC, ITV, Channel 4, Five, S4C and Teletext), and multiplex operators SDN and National Grid Wireless, and works closely with digital TV platform operators, equipment manufacturers, installers, retailers etc. and consumer groups to coordinate the technical rollout of digital television across the UK. In Germany the website *dasÜberallfernsehen* (everywhere television) provides an information service for consumers regarding roll-out, reception in their areas, equipment, receivers etc. It is published by the German TV Platform (Deutsche TV-Platform) a joint initiative involving producers, operators, private and public broadcasters, network operators, universities, federal ministries, regional governments and regulatory authorities. A public interest group, *France Télé Numérique* was recently established in France involving the state and public and private broadcasters, in order to organise switch-off, frequency re-organisation, and informing the public.

Various countries have introduced policies for subsidies to help with the transition to digital broadcasting, including cost incentives for reception equipments, or policies to promote standardisation. The BIPE (2002) study for the commission recommended encouraging consumer switchover by reducing their switchover cost, via tax incentives, discounted rates on audiovisual licence-fee for households who have switched to digital, general VAT reduction on all DTV equipment etc. The French Digital Support Fund (May 2007) was established to ensure the continuity of reception of television services broadcast by analogue terrestrial with regard to interruption due to switch-off of certain transmitters or disruption by foreign broadcasts. The fund will help affected customers via the provision or installation of equipment and adaptation of antennas. There are also plans to create a fund in order to ensure that those currently exempt from license fee payments will continue to have free reception of television previously received over analogue terrestrial. The UK passed a The Digital Switchover (Disclosure of Information) Act 2007 (in July) in order to allow certain government departments to disclose information on certain society groups to the BBC and to any company that the BBC makes use of for the purpose of the Digital Switchover Help Scheme. The plan is to provide free assistance (conversion of TV sets etc.) to people aged 75 or over, those with a severe disability or those who are blind or partially sighted. The Act was required in order to directly identify those needing particular assistance.

What processes are in place, or should be planned in order to inform the consumer regarding digital broadcasting, and switchover, and encourage take-up? What kind of cooperation is useful between industry stakeholders, consumers and regulators? What policies are necessary to promote consumer uptake particularly with regard to more vulnerable sections of society?

Documents of interest

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