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The European Commission's Approach to Digital Interactive Television: Frequently Asked Questions

What is digital television (DTV)?

Digital television is a new broadcasting technology that is rapidly replacing the traditional 'analogue' kind. In analogue broadcasting, the signal takes the form of a continuous wave, whereas a digital signal is in the form of discrete bits of information (a series of ones and zeros). Digital broadcasting technology benefits from advanced picture compression and radio modulation techniques. The advantages of digital broadcasting include:

- more TV services, thereby providing greater programme choice,
- better quality pictures, thereby increasing the impact and realism of viewing, and
- interactive television.

What is interactive television?

Interactive television provides additional features for television programmes, ranging from alternative sound tracks and camera views to additional information on the participants. Alternatively, items that have nothing to do with TV programmes can be transmitted alongside the programmes, like video games. Interactive television may provide administrations with the means to render Information society services attainable to all citizens.

What is an applications programme interface (API)?

Interactive television requires a stack of software components to be added to the basic digital television receiver, called an applications programme interface (API), similar to that in a computer. The API, also known as middleware, is the underlying technical facility for features such as the Electronic Programme Guide, Personal Video Recorders (PVRs) and any interactive television service.

How is digital television developing in Europe?

Digital television is available in Europe through all main platforms: terrestrial, satellite, cable and via the Internet (IPTV). The situation of digital television differs considerably from one EU Member State to the next. Digital TV penetration across the EU is around 25% of households, and the UK is the leader with around 64%. Most TV viewers in the EU are expected to buy at least one digital receiver between now and 2010. The Commission estimates the EU market for digital TV receivers alone at up to 20 million units per annum.

The following table shows the situation of digital television in the EU at the end of June 2005.

June 2005	Digital TV					
	Subscribers (000)					penetration %
	Cable	Satellite	Terrestrial	IPTV	Total	
Austria	60	228	0	0	288	8,8%
Belgium	146	0	10	3	159	3,7%
Cyprus	0	12	0	4	16	6,5%
Czech Rep.	0	90	0	0	90	2,2%
Denmark	140	337	0	0	477	19,2%
Estonia	0	8	1	0	9	1,5%
Finland	129	48	516	0	693	28,6%
France	1022	4402	490	750	6664	25,3%
Germany	2038	2440	2200	0	6678	17,1%
Greece	0	218	0	0	218	5,6%
Hungary	0	150	4	0	154	3,9%
Ireland	170	363	0	0	533	38,1%
Italy	0	3318	2500	221	6039	26,9%
Latvia	10	8	0	0	18	2,0%
Lithuania	0	8	0	0	8	0,6%
Luxembourg	1	0	0	0	1	0,6%
Malta	2	0	0	0	2	1,5%
Netherlands	190	555	128	0	873	12,4%
Poland	45	1230	0	0	1275	9,3%
Portugal	380	389	0	0	769	15,1%
Slovakia	0	15	0	0	15	0,8%
Slovenia	2	0	0	5	7	1,0%
Spain	665	1776	0	57	2498	17,3%
Sweden	230	608	450	12	1300	28,9%
U.K.	2600	7913	5178	26	15713	63,5%
TOTAL EU 25	7826	24116	11477	982	44497	23,7%

Source: Dataxis,

How does the European DTV situation compare with that elsewhere?

The world leader in digital television is the United States, where DTV was first launched, followed by the European Union. At the end of June 2005, there were about 53 million pay-TV subscribers in the US, shared almost equally between digital cable and digital satellite. There are also approximately 3 million digital terrestrial subscribers. Almost 50% of households have a digital TV receiver. The US also leads in a series of advanced video broadcasting services such as High Definition television (HDTV), Personal Video Recorders (PVRs) and video on demand (VOD).

On the other hand, the US is behind Europe in developing interactive digital TV, and television via the Internet (IPTV).

The rapid development of IPTV in Europe is favoured by local loop unbundling, which makes it possible for European broadband operators to offer "triple play" (TV, voice and the Internet) packages. There is significant cross-platform competition in Europe, involving terrestrial, satellite, cable and IPTV, whereas in the USA, in most cases competition is restricted to one pay-TV product by cable and two paying ones by satellite.

Elsewhere in the world, digital TV is less advanced than in Europe. In Japan, South Korea or Taiwan, cable digitisation is slow and the satellite has low potential as most people live in apartment blocks. On the other hand, IPTV is growing fast. It is noteworthy that South Korea, with more than one million receivers, has the second largest concentration of MHP boxes (for interactive TV offering) after Italy.

In Asia, Hong Kong is the most advanced in DTV with an entirely digitised cable network and two significant IPTV products.

What is the Commission policy on the 'digital switchover'?

The Commission is committed to accelerating the switchover process at EU level.

Digital television provides clear advantages for the viewers. As digital broadcasting uses spectrum more efficiently, it would also free up spectrum capacity for other uses, such as new broadcasting and mobile telephony services, which will in turn stimulate innovation and growth in the TV and electronic communications industries. The Commission seeks to ensure that the spectrum released by analogue switch-off is used in a way that brings maximum benefit to society.

Member States have agreed in the Council to achieve switch-off of analogue terrestrial TV broadcasting by 2012.

What is the Commission's position on interactive television?

The Commission's approach to digital television has always been underpinned by a need to demonstrate consumer benefits. Interactive television can contribute to the Lisbon agenda by bringing Information Society services to the reach of every citizen.

The Commission has supported standardisation work in digital TV and is promoting the adoption of European standards. The Commission has contributed to the interoperability dialogue with interactive TV stakeholders and Member States, notably through the MHP Implementation Group. This has enabled players to exchange experiences and ensure that interactive TV is rolled out successfully.

Nevertheless, the growth of interactive TV services has been slower than many expected. There is a need for business models to evolve further and provide the investment required, before major growth of on-line government services via TV can be envisaged.

The Commission therefore favours consensual solutions amongst European industry players for interoperability issues, instead of mandating a particular standard. This type of market-oriented approach has emerged in the area of High Definition TV, and appears as a promising model for solving other, DTV interoperability issues.

What is digital video broadcasting (DVB)?

DVB (Digital Video Broadcasting) is a global industry consortium that develops in Europe open and interoperable standards for digital television broadcasting. The DVB transmission standards (DVB-C for cable, DVB-S for satellite and DVB-T for terrestrial) have universal acceptance in Europe. MHP is DVB's standard for API. DVB standards are also used internationally.

<http://www.dvb.org>

How successful are European digital TV standards internationally?

The DVB standards are developed in Europe but being open they tend to be global. DVB-S and DVB-C are already global standards. DVB-T is adopted in more than 50 countries in Europe, Asia, Oceania and Africa, and it is in the process of becoming global. DVB-H (handheld) is also expected to become a global standard, given its compatibility with the GSM family of global mobile telecom standards. MHP has been adopted not only in Europe but also by the Korean, Japanese and US markets.

What is a multimedia home platform (MHP)?

The Multimedia Home Platform (MHP) is the Application Program Interface (API), developed by the Digital Video Broadcasting Project (DVB). MHP came into the market late, so that proprietary APIs were already operational. Until 2005 it was the only standardised specification for an API.

<http://www.mhp.org>

What is the electronic programme guide (EPG)?

The Electronic Programme Guide (EPG) is an on-screen display of channels and programme data, which helps viewers navigate through the many channels available in digital television. EPGs are especially useful on platforms that offer a large number of channels.

What is high-definition TV?

High Definition Television (HDTV) uses the wide-screen aspect ratio (16:9), multi-channel audio and offers approximately four times the resolution of a standard definition television system. HDTV is intended for large displays of over 1 metre measured diagonally. The combined effect of the wide aspect ratio and higher resolution significantly enhances realism and impact and thereby the enjoyment of the work.

www.hdtv.eu2005.lu

What is the HDTV agreement on technical interoperability?

European industry representatives have agreed on an “HD ready” labelling scheme, promoting flexibility and interoperability among HDTV specifications. This agreement, which is voluntary and open to all market players, provides certainty for consumers thinking of buying HDTV equipment.

This agreement was confirmed at workshop of European public and private broadcasters, manufacturers, infrastructure and service providers and national and European HDTV planning groups held by the European Commission in Brussels on 21 January 2005. European HDTV broadcasting systems would be able to support both the main approaches used internationally, i.e. 720 lines progressive scanning and 1080 lines interlaced scanning formats, from the outset. Consumer equipment will support both formats.

The Commission is supporting the work of the European HD Forum, which is following-up this initiative.

www.eicta.org

What are the next steps for the Commission?

The Commission will work with Member States to ensure the successful switchover to digital TV – as the facilitator for interactive digital services.

In this context the Commission will continue to promote open standards developed by European standards bodies, within and beyond the EU. The Commission will continue to bring together Member States in the Broadcasting subgroup of the Communications Committee, as a forum for the exchange of experience and best practice on digital TV in general, and interactive digital TV in particular.

Finally, Commission will continue to monitor the use of proprietary technologies in terms of competition law.

What happens to the analogue TV sets?

Viewers may continue to use their existing analogue TV set by the using a set-top box. They will be able to access most of the enhanced features of the digital signal, including clearer pictures and improved reception in built-up areas. The set-top box, however, will not enable an analogue television to display a high definition picture.