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The digital dividend: New airwaves for new wireless services

European Commission
Information Society and Media



High-speed internet access for all, new mobile multimedia services, and high definition TV will soon all become reality as traditional analogue broadcasting all across the EU is switched off and goes digital instead. This switchover, that will take place by 2012, will allow some of the most valuable bandwidth, previously reserved for traditional TV, to be used much more efficiently and innovatively for other services. But this digital dividend will only succeed if Europe pulls together. Only an EU coordinated approach will unlock its full and rich potential.

The switchover from analogue to digital TV will free up spectrum, offering social and economic opportunities for Europe that must not be missed. In the UK alone, the value of this so-called digital dividend was estimated to be between **€7.5 and 15 billion over the next 20 years**. Multiply this by 27 Member States, and it means more growth, more innovation, more choice of consumer services. For example, the **total value of radio spectrum-dependent services** in the EU is estimated to be **€250 billion or 2.2% of GDP**. The switchover offers a truly once in a lifetime opportunity

Television currently occupies some of the best radio spectrum available, allocated many years ago when there were very few alternative uses. But it is **inefficiently scattered** across the spectrum and as only

roughly 50% of the spectrum has actually been used at any point in time, it is quite **wasteful**. Today demand for bandwidth has rocketed as wireless technology has taken off.

Digital TV is dramatically more efficient in using radio spectrum than traditional analogue broadcasting. A digital TV channel uses **6-15 times less spectrum** than analogue TV. This means more channels over fewer airwaves; there will be space both for high quality TV and new innovative services. Clearly the time is ripe for going digital in Europe.

A UNIQUE OPPORTUNITY FOR EUROPE

Apart from the benefits of **digital TV** itself, such as better quality and greater choice, digital TV promises much more.

BROADCASTERS AND THE DIGITAL DIVIDEND: FINDING A BALANCE

The dividend is the spectrum over and above the frequencies broadcasters need to run their existing services digitally. And **as 6-8 digital TV channels can fit in one analogue channel**, Europe has a real opportunity to profit from the more efficient use of the airwaves.

Traditional broadcasters would like to continue using the airwaves they currently occupy to offer new high quality services and to compensate for the cost of switching over. However, today viewers need no longer rely on terrestrial broadcasters for their TV needs. Cable, satellite, internet are viable alternatives.

The newly-released airwaves could be used for many other purposes if Europe acts together. The Commission's win-win approach promises greater efficiency and the right balance of services so that we fully reap the benefits of the digital dividend, bridge the digital divide while still allowing broadcasters to offer viewers a better service.

Viewers need no longer be passive. They can engage with the programmes as digital TV allows greater interactivity - watching scenes from different angles, finding out more about a given topic, participating directly in quizzes or chat shows, or simply shopping directly from your TV set.

It also allows greater accessibility by providing assistive services like improved subtitling, audio commentary and signing.

But many additional new services could also benefit.

One promising new area is **wireless access to broadband communications**. Wireless solutions are often the best way to bring broadband - and the innovative services it offers - to remote and rural areas where, only 72% of the population on average have broadband access today. Some countries even have a wider digital divide, such as Italy (100% in urban areas vs 50% in rural areas), Germany (99% vs 59%), Slovakia (91% vs 30%), Greece (27% vs 10%), Poland (74% vs 55%), and Latvia (90% vs 37%).

The potential social and economic benefits of new wireless applications are virtually unlimited. This includes online education, internet TV, improved communications for public safety services such as disaster recovery and better coverage for mobile communications or the growing demand for high-speed mobile data services. The economic importance of such services was underlined by recent OECD figures that showed that firms that embrace broadband e-business can raise productivity by 31%. Across Europe, we cannot afford to leave out rural areas in our push for competitiveness.

Another attractive option is that of **mobile multimedia services**. These services are at the core of convergence between mobile telephony and terrestrial broadcasting, and include mobile TV, satellite-related broadcasting, and remote medical assistance. The potential for such services is immense. For mobile TV alone, the estimated market value is between €7-20 billion by 2011, serving between 200 and 500 million viewers worldwide.

EUROPE MUST ACT TOGETHER

Airwaves do not stop at national borders. 27 national systems for one resource cannot work. Consequently investments in new wireless technologies are now mostly conducted at a European or global scale.

So if Europe is to avail of this once in a lifetime opportunity and make optimal use of the digital dividend, there can be one, and only one, approach. Therefore the EU must develop a common coordinated approach, even though some Member States (as well as the US and Japan) already have plans on how to use the digital dividend.

This means Member States must set aside airwaves for EU-wide services and share spectrum on an EU-wide basis by clustering similar types of services into common spectrum zones. Clustering would also help to manage better interference between the main networks that support the services.

An EU approach will also boost investment, reassure investors and encourage new services to target the mass market and flourish.

GREATER SPECTRUM EFFICIENCY ALLOWS OLD AND NEW SERVICES

Existing TV	Additional standard TV programmes, new broadcasting services such as high definition TV	Multimedia services, such as mobile TV	New mobile and fixed wireless broadband services
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← The digital dividend →

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