

November 2, 2005

LIVE TV IN YOUR POCKET**What is mobile TV?**

Mobile TV is exactly what it says it is: the ability to receive television-like content through a mobile device. Whether it's getting news bulletins, market updates, your favourite soap or the latest sports news, in the near future, it will be possible to watch TV broadcasts on the move via your mobile device.

More than 2 billion people around the world own or use mobile phones. And increasingly consumers are using their mobile phones for multimedia – not just for communication, but also for entertainment, news and information services. Mobile TV is set to be the next big thing.

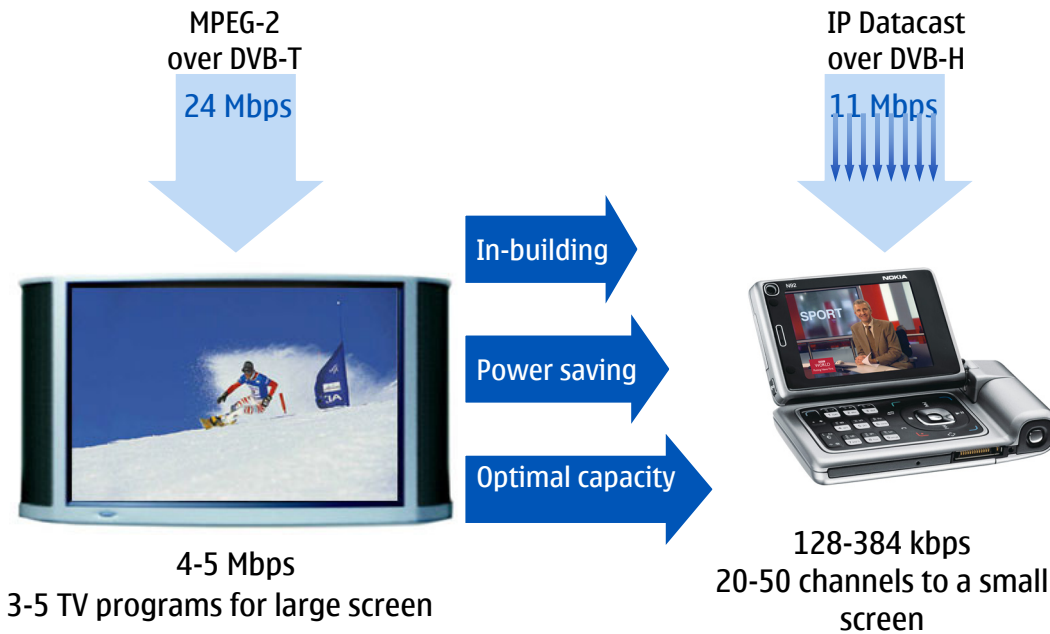
How mobile TV works

The key to making mobile TV a reality is in combining traditional broadcast standards with features specific to handheld devices: mobility, smaller screens and antennas, indoor coverage and reliance on battery power.

The technology used is called IP Datacasting over DVB-H, a combination of digital broadcasting and internet protocol, which enables service reception in handheld devices. DVB-H scales for smaller devices a technology that is already in place in millions of TV sets worldwide. Handsets require an additional radio receiver, which is separate from the cellular receiver, to receive a signal. The DVB-H receiver is integrated in a similar manner as Bluetooth receivers in mobile phones.

The system would operate separately from GSM or 3G services as users would receive content as it happens – like normal TV - as opposed to on demand.

November 2, 2005



The benefits of DVB-H

DVB-H is the best delivery system currently available for most markets. In November 2004 it was adopted by the European Telecommunications Standards Institute (ETSI) as the standard for mobile TV services in Europe.

Since DVB-H builds on the existing terrestrial TV infrastructure (DVB-T), the initial investment in setting up mobile TV services is reduced. It provides the best user experience in the mobile environment with excellent, broadcast-quality picture, reduced battery consumption and wide range of channels (up to 50 mobile channel are possible). DVB-H will be accessible by an audience of approximately 300 million mobile users by 2006.

More limited mobile TV services are also available over WCDMA (3G) mobile networks. Orange has launched a mobile TV service in the UK using the Nokia 6680.

Handset

The system is currently being trialed in countries across the world using the Nokia 7710 smartphone with TV reception coming from a battery accessory called Nokia Streamer (i.e. the DVB-H receiver).



November 2, 2005

The new Nokia N92, part of the Nokia Nseries, will be the world's first commercial DVB-H enabled handset (with integrated DVB-H receiver).

According to Informa, there will be **50.97 million DVB-H devices sold globally by 2010** (source: Informa May 2005)

Benefits for viewers

Making television accessible on a mobile device means bringing familiar and popular content to people wherever they are.

Results from one of the world's first mobile TV trials in Helsinki earlier this year revealed that over half of those that took part believe mobile TV services will be popular. 41% would be willing to purchase mobile TV services.

Benefits for the industry

TV Companies / Producers

- Mobile TV presents an opportunity to both increase audience share and create new prime time hours – i.e. during the journey to and from work
- Re-use of popular content and new distribution platform, plus additional revenue opportunities
- Opportunities for new content / format - specifically made for mobile TV
- The interactivity provided by mobile TV services will provide commercial broadcasters with a new way of generating extra advertising revenue, while public broadcasters will gain increased service opportunities

Advertisers

- Additional outlet for communicating brand messages and interacting with a target audience

Mobile Operators

- Excellent service that will interest their customers and provide opportunities for interactive services

November 2, 2005

- Huge revenue potential – 50% of those that took part in the Helsinki trial thought that a fixed monthly fee of €10 was a reasonable price to pay
- Interactive services will increase traffic over the mobile network again presenting revenue opportunities
- An opportunity to differentiate the customer offering. Research has shown that 50% of potential users would change their mobile service provider to get mobile TV services

Broadcast Network Operators

- Existing network infrastructure such as high TV towers are ideal for supporting the transmission of mobile TV. As relationships with mobile operators develop and mobile TV coverage expands, so will revenues
- For broadcast network operators, the innovation of mobile TV provides a convenient way to secure profits far into the future

The Helsinki DVB-H Mobile TV Trial – Results

Popularity	<ul style="list-style-type: none"> • 58% said that they believed mobile TV services would be popular • 41% would be willing to purchase mobile TV services
Content	<ul style="list-style-type: none"> • Local programmes available through national Finnish television stations proved the most popular content • The San Marino and Monaco Grand Prix as well as the UEFA Champions League match between Liverpool and AC Milan were among the top 10 programmes viewed during the trial
Viewing patterns	<ul style="list-style-type: none"> • The majority of pilot users ‘snacked’ on mobile TV services watching between 5 to 30 minutes of mobile TV per day
Pricing models	<ul style="list-style-type: none"> • 50% of those that took part thought €10 per month was a reasonable price to pay

November 2, 2005

What is the status of current pilots?

Extensive pilots of mobile TV using the DVB-H standard are currently taking place across the globe, involving leading broadcasters, mobile operators, broadcast network operators and handset manufacturers.

Location	Companies Involved	Details	Timeframe
Berlin, Germany	BMCO – a joint initiative involving Nokia, Vodafone, Philips and Universal Studios (Germany)	Consumer	2004
Helsinki, Finland	Nokia, YLE, Digita, TeliaSonera, MTV3, Nelonen and Elisa	Consumer pilot, involving 500 people	March – July 2005
Oxford, UK	Nokia, ntl Broadcast, 02	Involving 350 people and 16 channels with content from CNN, Discovery Channel, Cartoon network and Shorts International	July 2005 – January 2006
Pittsburgh, USA	Nokia, Crown Castle	Technical trial	October 2004
Australia	Nokia, The Bridge Networks, Telstra	A 15 channel consumer pilot	2005
Spain	Nokia, Abertis Telecom, Telefonica Moviles	Involving 500 people with content and programmes from the main Spanish broadcasters: TVE, Antena, 3TV, Sogecable, Telecino, Telemadrid and TV3	October 2005 – February 2006
Switzerland	Swisscom	Technical trial	2005
Netherlands	DigiTenne, KPN, Nozema Services	Consumer trial currently taking place in The	2005

November 2, 2005

		Hague with 200 people	
Taiwan	Nokia, Chunghwa Telecom, CMC Magnetics	Technical trial to be followed by a consumer trial later in 2005	2005
Malaysia	Astro, Maxis & Nokia	DVB-H demonstrations	August 2005
France	Nokia, SFR, Canal +, towerCast	A consumer trial involving 500 people with 13 TV channels starting in October	October 2005
South Africa	MultiChoice	Technical trial	August 2005

When will mobile TV services be commercially available?

Mobile TV services are already being introduced in Japan and Korea (although using different technology) while in Europe the market for commercial broadcast services is expected to start to open up during 2006.

In October, Mediaset and TIM announced their intention to launch the world’s first commercial DVB-H mobile TV service in Italy in 2006.

According to analyst house Frost and Sullivan, the market for DVB-H will be worth €6.8bn by 2011.

For further information on mobile TV, please visit:

<http://www.nokia.com/mobiletv>