

# "HBB in the MHP environment - Status and Prospects"

Anthony Smith-Chaigneau – Managing Director Alticast GmbH

Interactive with the Future

The Next Level in Digital Broadcasting

Hybrid Services are NOT a NEW invention

There are Many Countries and Operators in the World that Have Already Deployed Hybrid Services

## + Hybrid IPTV

- × In Italy the number of hybrid (IP+DTT) shipments surpassed those of pure IPTV STBs\*
- × The majority of IP set top boxes shipping in Europe 2008 have had terrestrial tuners\*
- × In 2008 there were 14.4 M hybrid devices installed, worldwide\*
- × In 2012 the forecast is 22.8 M hybrid devices, worldwide\*
- × In 2013, 48% of all Sat-STBs will have Internet connection\*
- × Hybrid Set Top Boxes (DTT/DTH+IP) becoming the norm\*
- × The number of IPTV services in DTT/DTH networks will increase significantly

\*source In-Sat

# This 2009 and we are Digital

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## EMEA Hybrid Broadband – Broadcast – DigitalTV is a Complex Market Place

Watching Video on any device in a **Catch-Up TV** environment is not Interactive TV it is merely **VOD**.

- The BBC recently noted that it must support 14 different video formats and four different Digital Rights Management or DRM formats to ensure that its **online** 'catch-up TV' service, the iPlayer, will work across different internet and mobile platforms.
- With such a scenario, the BBC's desire for the use of a single specification to access its content can be better understood and perhaps explains its instigation of the Canvas Project.



**“Tim Berners-Lee says Television Channels are History”**

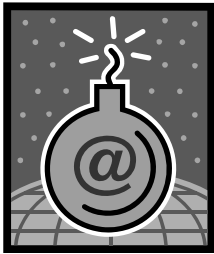
- Telco Marketeers BELIEVE this statement to be true – **The TV industry is reacting to the Telco pressure and instead of looking at what they can deploy today and get on with business modelling the are tackling issues by trying to re-invent the wheel of interactive TV technology each time...**

# It was a long time ago - 1995

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## Putting Technology To Work in a Domain it was not Suited For

PURE WEB FOR TV - Failed and Failed and Failed Again



1995	WebTV Founded - based on HTML	<i>Failed</i>
1998	(ATSC Study) <i>HTML is a poor environment for television</i>	<i>Interesting!</i>
2000	<i>Major goals of "ATVEF" was to create a specification that relies on existing and prevalent standards (HTML/JS)</i>	<i>Unsuccessful</i>
2002	<i>Broadcast HTML was created from ATSC-related work to develop the DTV Application Software Environment (DASE).</i>	<i>Never really deployed</i>
2006	The DVB-PCF embodies a high-level declarative model that is based on <b>industry standard</b> formats, including XML syntax, MIME types and UML. (Transcoding of Applications)	<i>Never used</i>
2009	TV manufacturers bet on "WEB TV" with CE-HTML and launch an HbbTV initiative	?

## Depending Who Pays you or Your Technical Inclination - The Web is a Mess

Seeing possibilities is great, but the downside is that **it can be hard to acknowledge when something isn't working**. The concept of the web was visionary, but much of the web is a failure. Yes, we've been able to force it to work. But it could hardly be said to "work well." In particular, applications of any complexity using HTML, CSS and JavaScript are difficult and expensive to develop, and it seems **virtually impossible to get identical appearances across browsers**. Even simple pages look different because of font issues.

<http://www.artima.com/weblogs/viewpost.jsp?thread=193593>

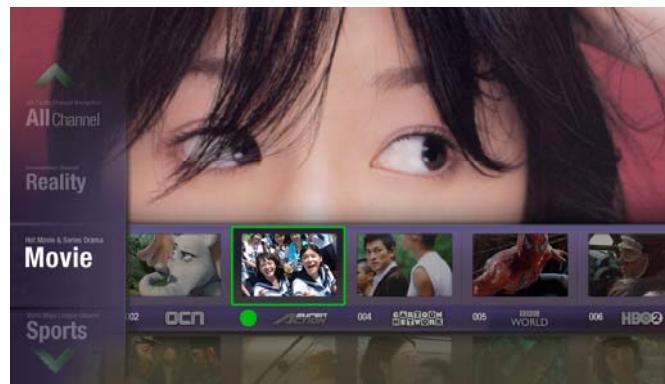
# Still 1995?

No this is from the EBU in 2009

- <http://tech.ebu.ch/docs/r/r127.pdf> EBU R 127-2009 TV in a Hybrid Broadcast/Broadband Environment

The EBU recommends that EBU Members must foster, in cooperation with the industry and standardization bodies, the development of **hybrid broadcast/broadband technical platforms** with the necessary technical commonality to ensure the development of a European-wide consumer market, thereby bringing the lowest costs and highest quality to the European consumer. In order to achieve this goal, the EBU will establish a Task Force, which includes relevant industry representation.

**Extract** “These opportunities include, for example, richer Electronic Program Guides (EPGs), past programmes "on demand" ('catch-up TV'), access to archives, interactivity, communities, and web access. For those PSBs who provide publicity, new forms of advertising may also be available”.

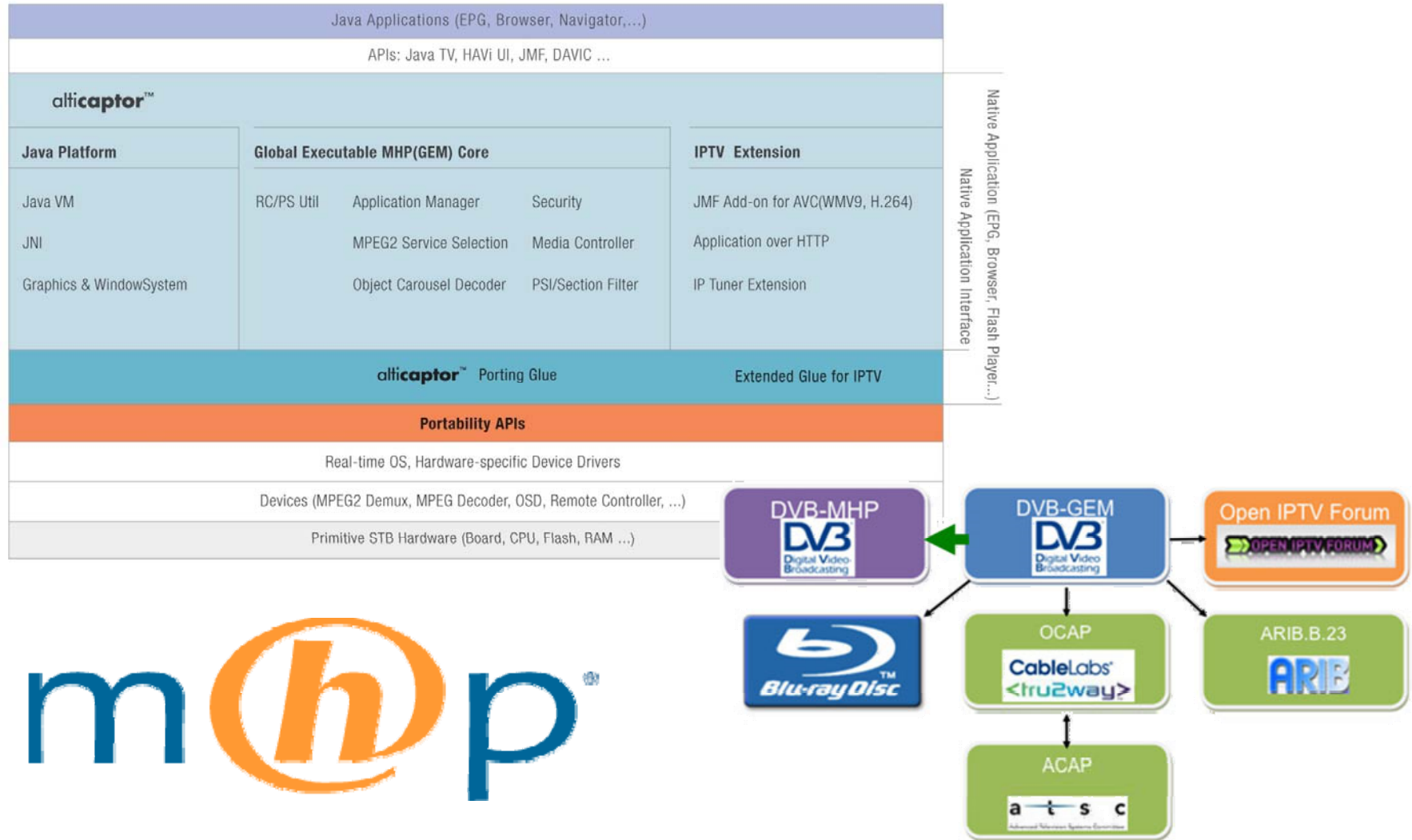


*The supported HbbTV initiative (with the interactive solution already set to HTML) appears to be a replication of previous work under GEM- MHP (and even MHEG5 by the DTG) which the EBU is fully aware of having already supported and publicly recommended it to its Members. MHP is already deployed in HBBTV scenarios in Europe and Worldwide!*

# So We Already Have a Solution

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## Digital Television already has an ADVANCED HBBTV STANDARD





## Hybrid Broadband – Broadcast Television

MHP Hybrid Broadband STATUS

Each MHP version was designed to address specific market needs:



**MHP 1.0 is for unidirectional interactivity, mainly aimed at horizontal DVB-T markets, with limited use of a return channel**

- **MHP 1.1 is for bidirectional interactivity**
- **MHP 1.2 is for bidirectional interactivity including video streaming. MHP 1.2 also includes features that allow further customisation of the end-user experience by Broadcasters & Pay TV Operators.**
- **MHP 1.1.x supports DVB-HTML applications, so HTML is largely supported with the required extensions to deal with TV environment (video window, remote control, etc.)**
- **MHP 1.1.x also supports both native and interoperable plug-ins to run other content formats on the digital TV receiver**

**Please Note: Additionally, any MHP can be used to integrate "browsers" to support: declarative content formats suited for TV; standards like MHEG-5, WTVML; or a proprietary language from each application developer company.**

# Already Prepared for Broadband

# Already Prepared for HTML



## MHP was prepared for HYBRID-BROADBAND-TELEVISION – Recent Developments

### DVB Completes Major Refactoring Work of GEM and MHP Specifications

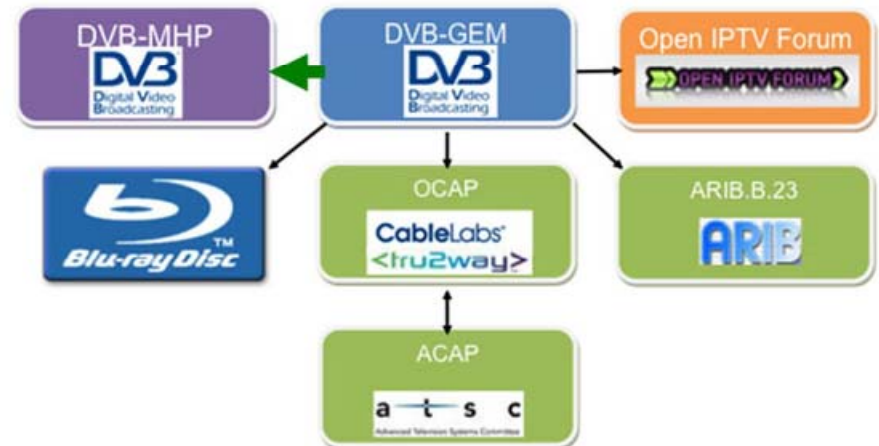
Version	App. Type	Supports	Remarks
1.0.x	Bound applications	Data via IP	
1.1.x	Cached Apps Stored Apps	Data via IP Applications via IP	HD ready DVB-HTML option Browser Plug-in Option
1.2.x	Privileged App Unbound App Providers Apps	Data via IP Applications via IP Video via IP	DVB-IPTV GEM-IPTV



SkyLife MHP DVB-S Widgets Service over IP



CJ Cable Google Portal via IP using Tru2way







## DVB TAM1032r1 - Introduction to MHP 1.1.3, MHP 1.2 and MHP/GEM for IPTV

### DVB-IPTV

- - Standard protocols for IPTV including
- · Broadcast / multicast service discovery
- · Video & audio content delivery
- · Standard profile of RTSP protocol
- · Optional broadband content guide

### MHP-IPTV

- - Integrates MHP with DVB-IPTV
- · Extensive re-use of existing APIs
- · Some new APIs including DVB-IPTV specific extensions to existing APIs
- - Broadband content guide remains optional

### GEM-IPTV

- - Designed for networks using proprietary IPTV systems
- - Subset of MHP-IPTV without DVB-IPTV protocols

Slide 22 Extract: [org.dvb.service](http://org.dvb.service) adds support for hybrid receivers

# Solution Built and Deployed

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## EBU TECHNICAL REVIEW – September 2001

- As there was **no better alternative**, the DVB developed DVB-HTML for version MHP1.1.x
  - [http://www.mhp.org/docs/mhp\\_perrot-dvb-html.pdf](http://www.mhp.org/docs/mhp_perrot-dvb-html.pdf)
  - Presently Being used at Telenet (Belgium) and ITI (Poland) (1.2 Million MHP Receivers)



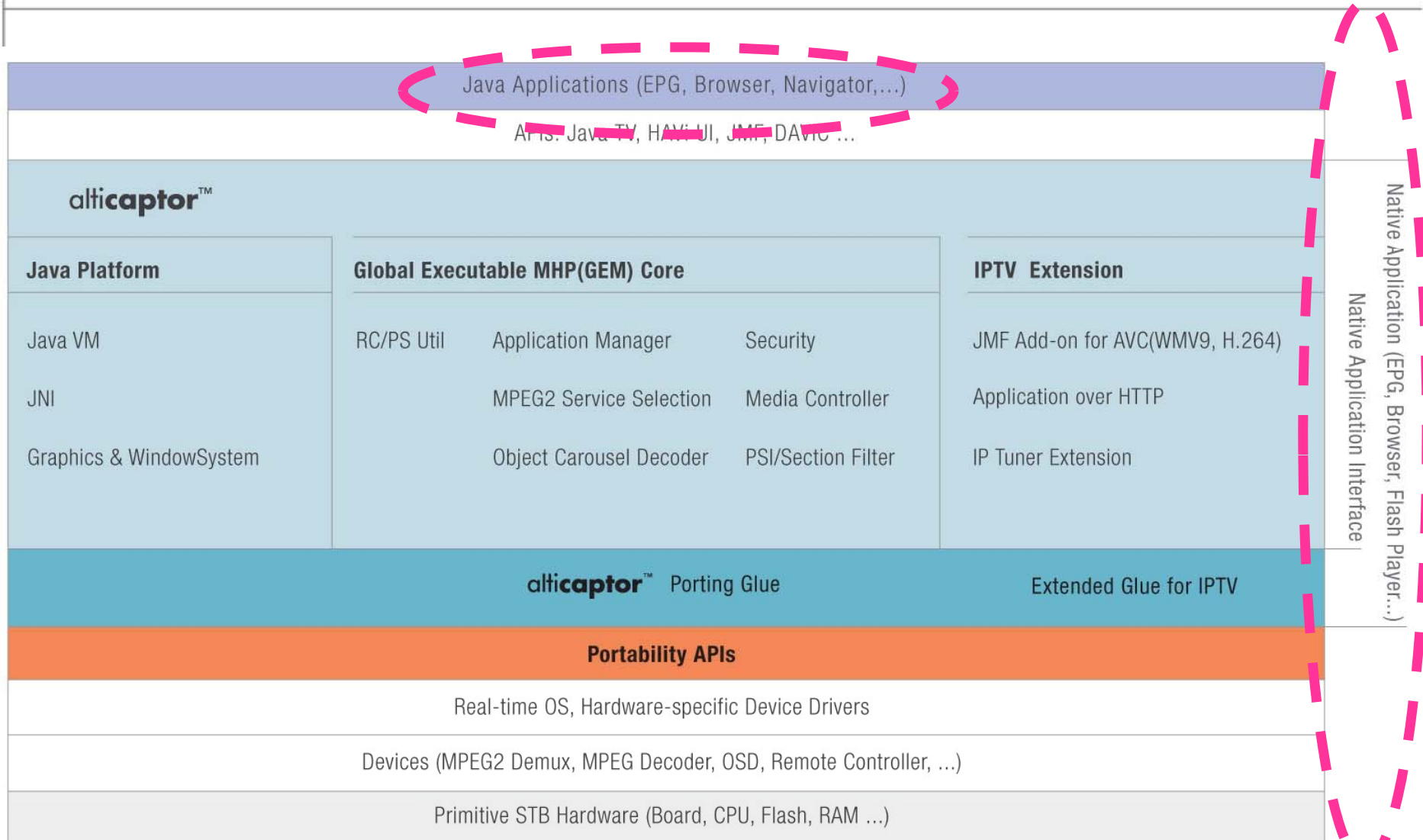
Applications using Hybrid Broadband Broadcast in Poland

- MHP 1.1 can also co-exist with any other kind of browsers
- **BUT** needs a **STANDARDISED BROWSER** to be Added
  - Why NOT CE-HTML if it is the answer to interoperability?

# Already Prepared for Browsers

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## Globally Executable MHP (GEM) – Already deployed in Korea



# Already Prepared for Browsers

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## 2004

There has been innovation and Hybrid Solutions in MHP for Some Time Now

- ESPIAL AND ICT EMBEDDED DELIVER CONVERGENT DVB-MHP PLUG-IN TO IPTV/MHP COMBO BOXES

- 09/10/2004  

- *Allows set top box manufacturers to add DVB-MHP functionality to existing and new IPTV STBs through novel plug-in capability*
- *Enables advanced Portal content development in traditional markup languages like **HTML***
- August, 2004 Ottawa, Canada – Espial, the leading provider of set top box software and IPTV applications today announced that the Espial Escape browser has been chosen by ICT Embedded for their IPTV targeted DVB-MHP plug-in. Combined with the ICT plug-in, STB manufacturers can now offer an IPTV solution that can render Java DVB-MHP Xlets and HTML Portal applications as necessary within a specific geography.

## 2005

Digital Recording Extension to Globally Executable MHP (GEM), DVB A088

PVR/PDR Extension to the Multimedia Home Platform, DVB A087

# Further Specifics for Broadband Alticast GmbH



## DVB Blue Book A137:

### Signalling and carriage of interactive applications and services in hybrid broadcast/broadband environments

The present document defines a framework for the signalling and carriage of interactive applications or services in broadcast and broadband networks. This framework covers:

- Signalling interactive applications or services in both classical broadcast networks and broadband networks
- Distributing the files of interactive applications or services through either classical broadcast networks or broadband networks
- Synchronising interactive applications or services to video or audio content distributed through classical broadcast networks or broadband networks
- Referencing video, audio or subtitle content distributed through classical broadcast networks or broadband networks from interactive applications or services

The present document is **independent of any particular technology for interactive applications** or services. It is intended to be referenced by organisations defining how interactive applications or services are to be deployed and not used as a stand-alone document in its own right.

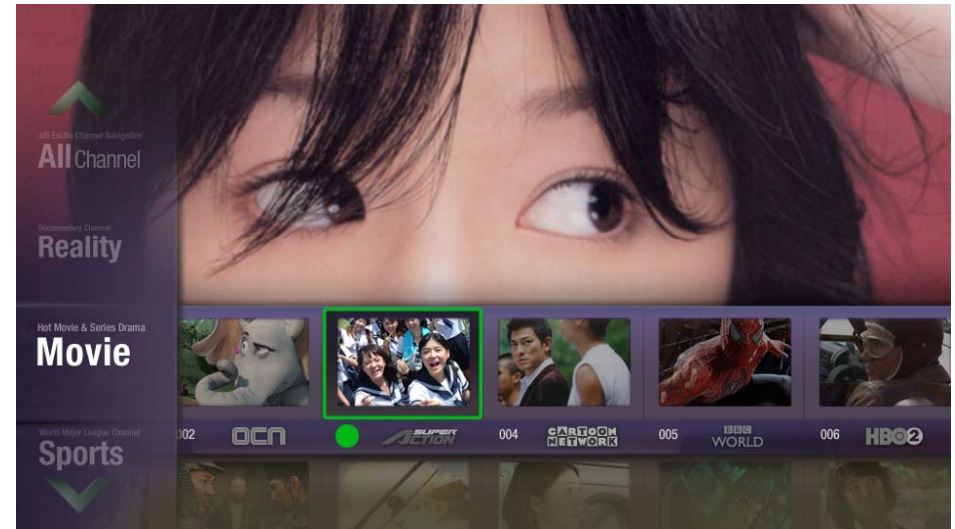
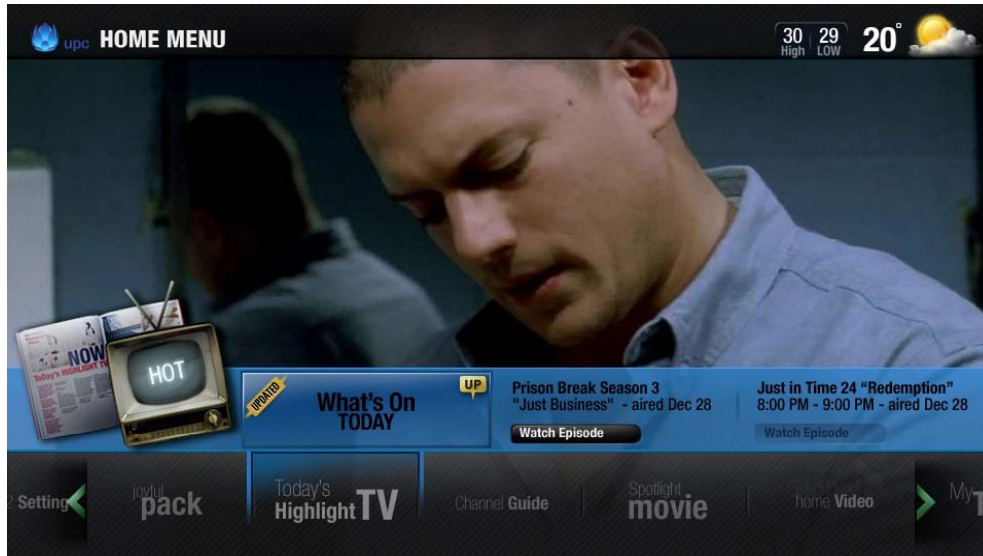
It is expected that those organisations will make a **selection appropriate for their market or deployment** from among the functionality defined here. The use of "shall", "should" and similar terms in this document is intended to apply only if the particular feature is used and not to imply that the feature itself is mandatory.

# Already 3D Graphics and GUIs

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So What about Advanced EPGs, On-Demand TV, Interactive, Archive, Interactive Advertising in MHP

These are already deployed in MHP along with Advanced Graphics User Interfaces

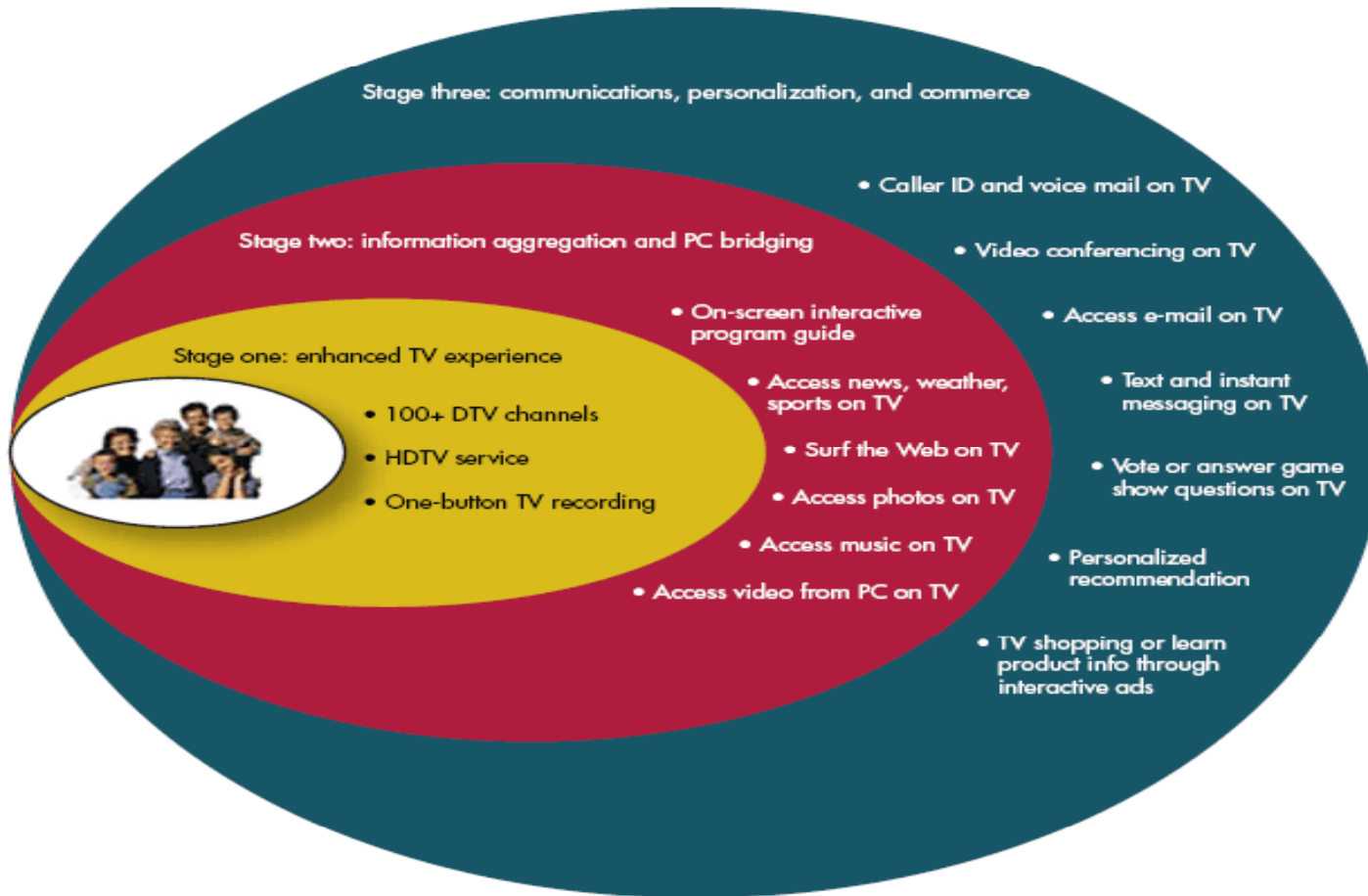


Interactive with the Future  
The Next Level in Digital Broadcasting



We already new about HYBRID in 2006

2006



2. Set-top boxes will pass through three stages of growth. Stage one will enhance the viewing experience. In stage two, users will access PC content with greater ease, and information access will improve. Stage 3 will include services such as e-mail, messaging, and video conferencing. (courtesy of Parks Associates' Roadmap for Advanced Set-top Box Features, 2006)

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Onwards and Upwards

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**2009**

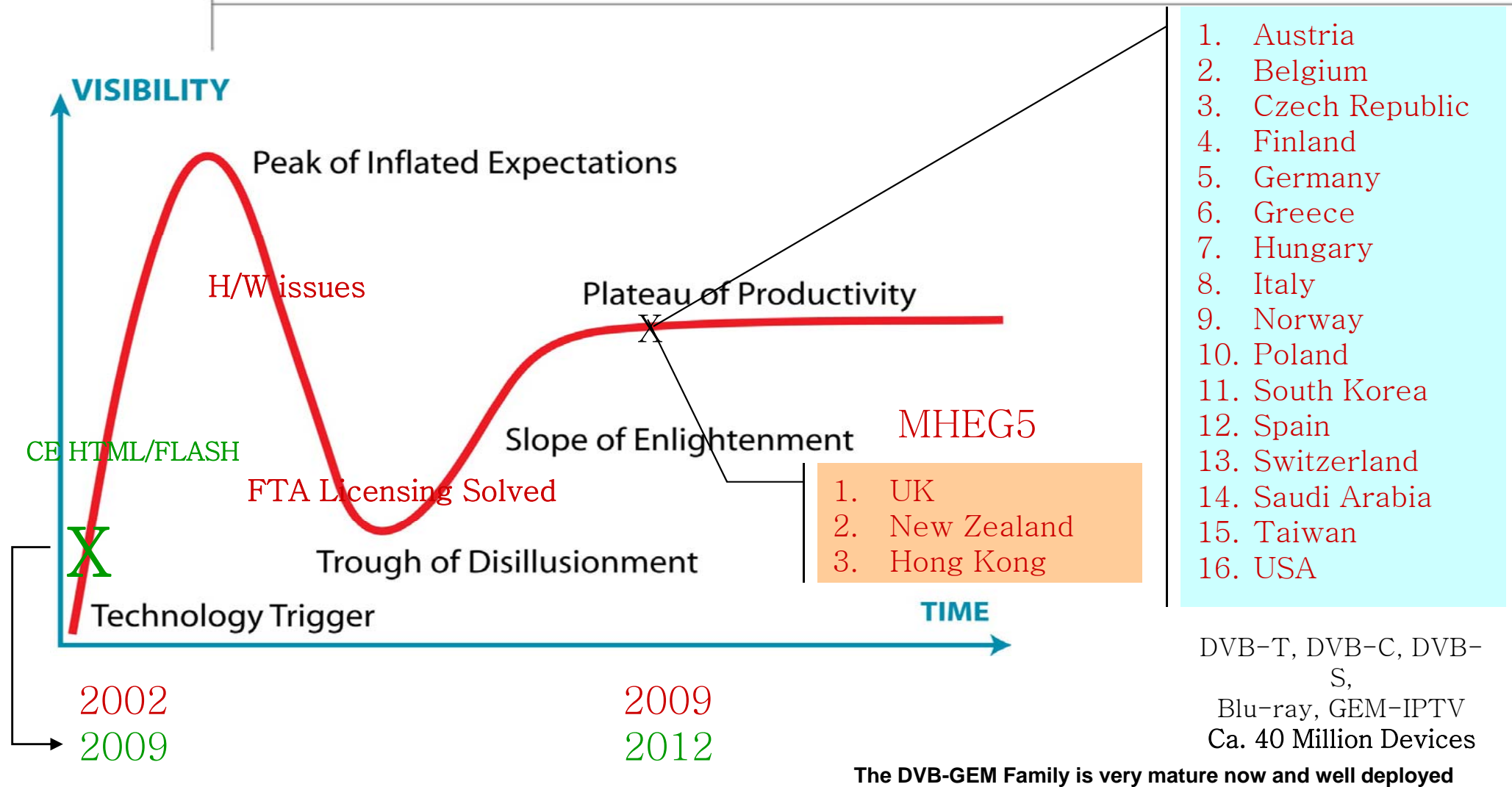


# 2009 MHP & GEM Prospects

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MHP and GEM continue to grow

## GEM Deployed

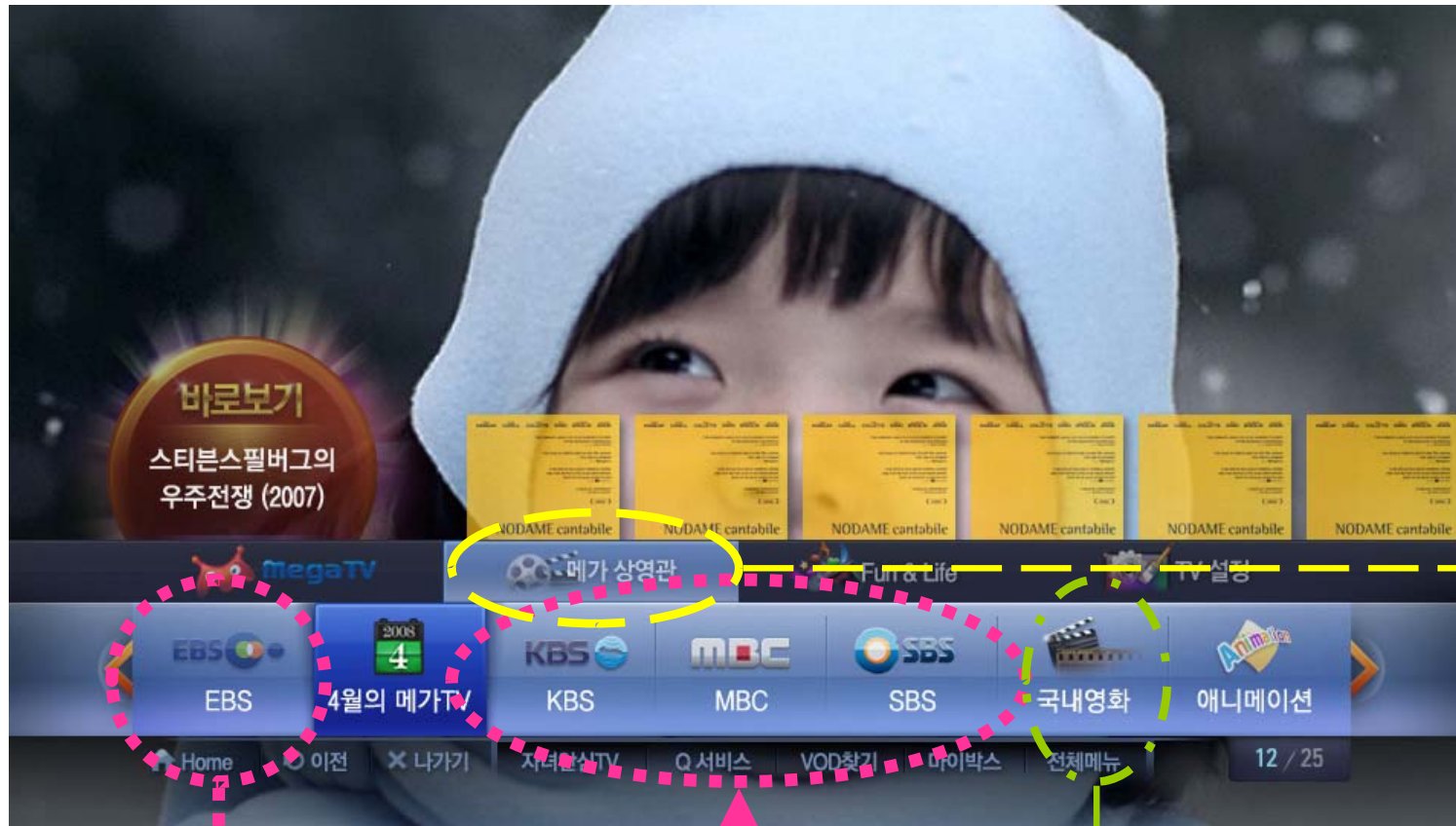


# HBBTV Already Deployed

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DTT, CATCH-UP TV, IPTV, VOD, GAMES, EPG, APPLICATIONS, CALLER ID

.GEM Hybrid Services Deployed – One Screen – One Remote Control – Multi Service with Interactivity



VOD Service

GUI DTT Channels for Catch-Up TV service

Film Library

Catch-Up TV - 3 Day Viewing Service = \$\$\$ After 3 Days = FREE

# HBBTV Already Deployed

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## Hybrid Broadcast-Broadband (DVB-S + IPTV)

- SkyLife Steps Up Its IPTV-combined Luxury HD in the Second Half of 2009

Seoul, Korea, April 2, 2009 -- SkyLife, a major digital television operator in Korea, announced today that it will commercialize Satellite and IPTV combined services in July 2009.

SkyLife is planning to introduce a hybrid receiver, which will be powered by Alticast's middleware, and will represent the future broadcasting services that will enable subscribers to enjoy KT Mega TV and Video-on-demand content simultaneously with diverse high quality HD real-time channels.

"This service is a combination between real time broadcasting and high quality HD channels via Satellite and VOD services with over 80,000 content from KT Mega TV," said Mr. Mongryong Lee, CEO of SkyLife. "We are currently under negotiation with KT for marketing cooperation and also considering strategic alliance with other IPTV operators."

With SkyLife's added ability to provide VOD service starting the second half of this year, satellite broadcasting, which was launched in 2002, is expected to be significantly enhanced in terms of service innovation in the dynamic digital TV industry.

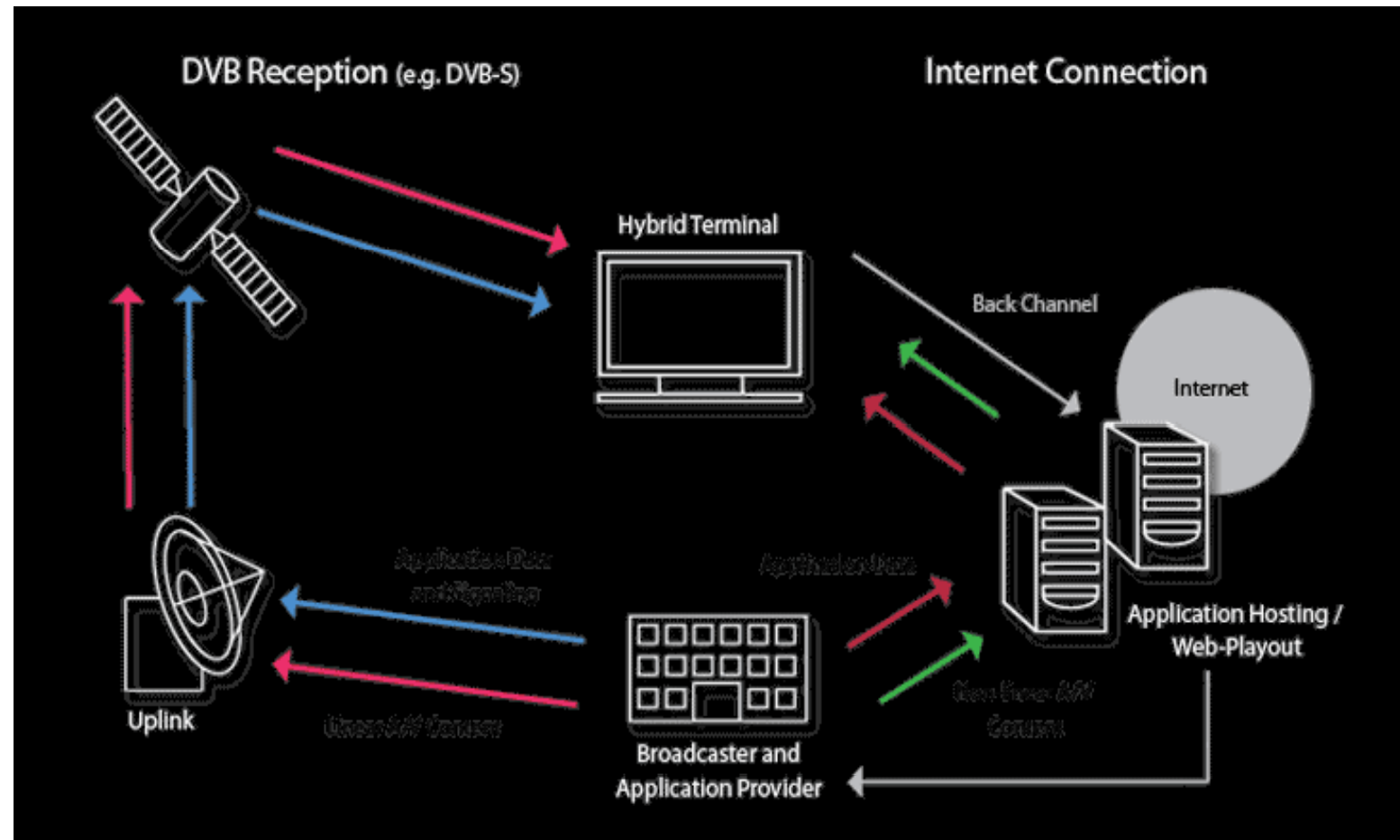
SkyLife is also expected to be the frontrunner in the HD broadcasting market by increasing 45 HD channels within this year. Adding another ten HD channels to the existing 25 HD services in the first half, it will finally secure 45 HD channels within this year by developing new national and international channels.

SkyLife is expecting a total of 2.52 million subscribers in 2009, which is a seven percent increase over last year, and is predicting to have 2.77 million subscribers in 2010 and 3.04 million in 2011.

# 2009 – Familiar Schematics

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The HBBTV Initiative According to the WWW



Source: [www.hbbtv.org](http://www.hbbtv.org)

# This is Confusing?

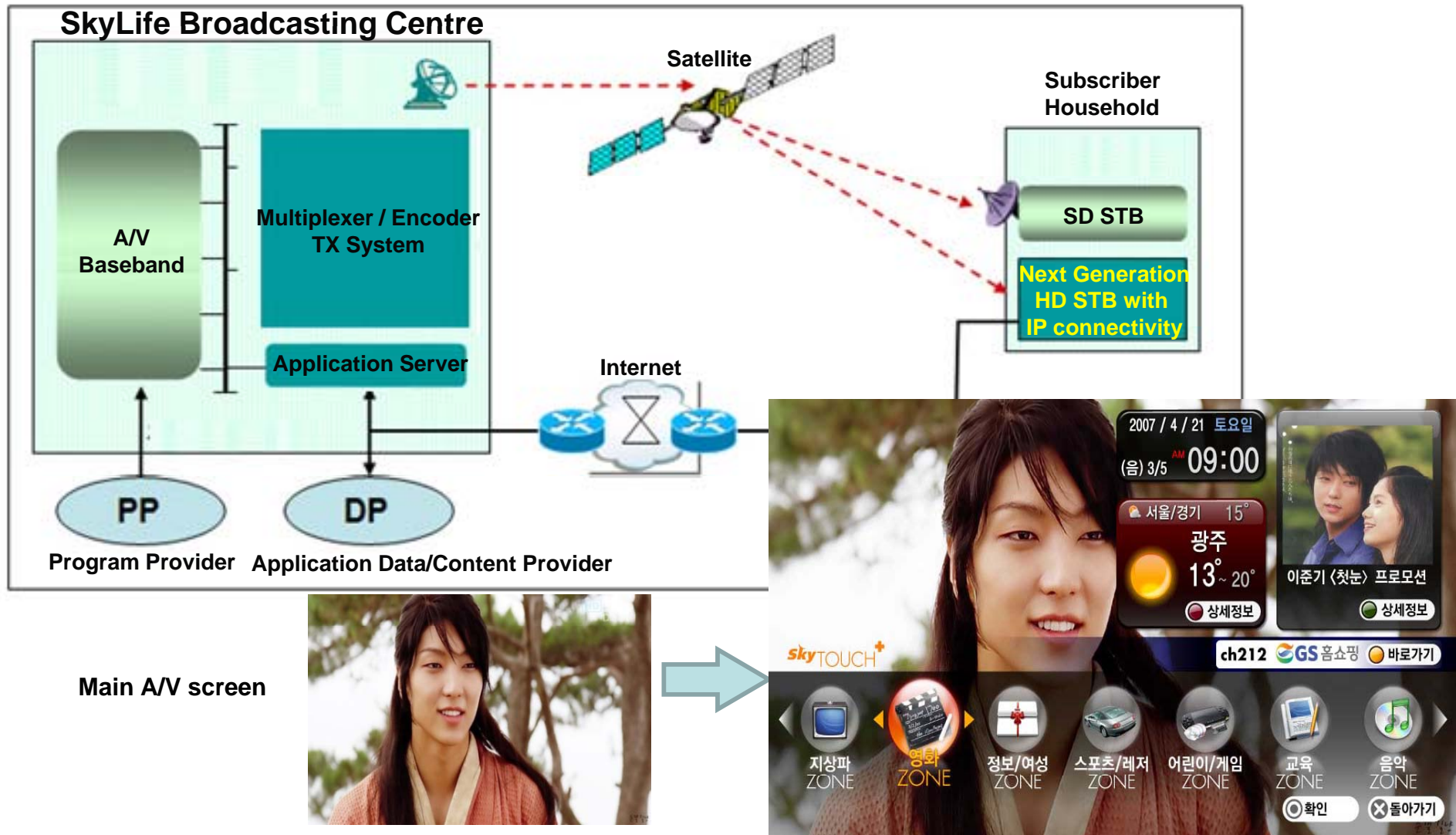
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- [New launch of Blinkx Broadband Television, interact with TV: Download Now](#)
- April 3, 2008 by [Mark](#)
  
- A great new service has just been launch by the name of Blinkx Broadband Television (BBTV) which you can download right now. A new web service where you can interact with TV.
- Blinkx is California-based and is the world's largest video search engine which will allow you to search more than 18 million videos across the web; the question is "How good is it?"
- It will however give you high picture quality videos on a full screen unlike the small screen typical of much online video and in addition all users will be able to interact with the videos they are watching.
- The new BBTV service will create a speech track of the video which also allows users to go to certain points just by searching for a particular word, you will be able to click on these certain words in the transcript for additional information on people or places featured, while the videos also link through to other websites which have related information.



## IP Hybrid Service Environment using MHP

SkyLife Hybrid integration with HD STB



Displaying application portal on Video screen

# 2009 IP Enhances Broadcast

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## SkyLife Increased Services using the IP Connection

	Old service	After implementing IP Hybrid
<b>Game</b>	Simple board game, Arcade game	Network game 3D Look game
<b>Entertainment</b>	Fortune telling	TV Karaoke TV Cartoon
<b>Communication</b>	SMS : TV to Mobile	SMS : TV to Mobile, Mobile to TV, TV to TV Polling, TV mail
<b>T-Commerce</b>	N/A	TV Commerce, TV Shopping
<b>T-Learning</b>	N/A	Children book reading Word Puzzle
<b>Additional Advanced service</b>	N/A	UCC service TV Widget Personal ticker service

# 2009 HBBTV in Italy

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Italian Hybrid Broadband TV (HBBTV) in an MHP Environment

MEDIASET-DTTV

## C5 Main Portal



**SD (TRADIZIONAL) VERSION** (all the data are broadcasted, no broadband/IP connection)

In the broadcast mode there are only few applications listed, due to the lack of bandwidth.



**HD EXTENDED VERSION** (IP connection available)

Three more xlet/applications (2 editorial games/apps + 1 iAdv) are downloaded via back channel.

The downloaded apps must be listed together with the broadcasted apps, in order to create a seamless experience.



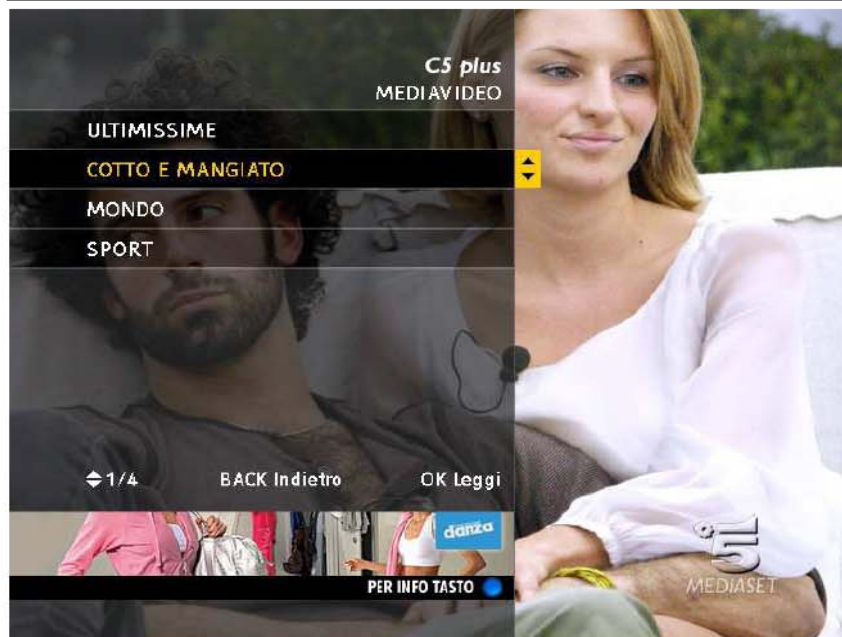
# 2009 HBBTV in Italy

Alticast GmbH

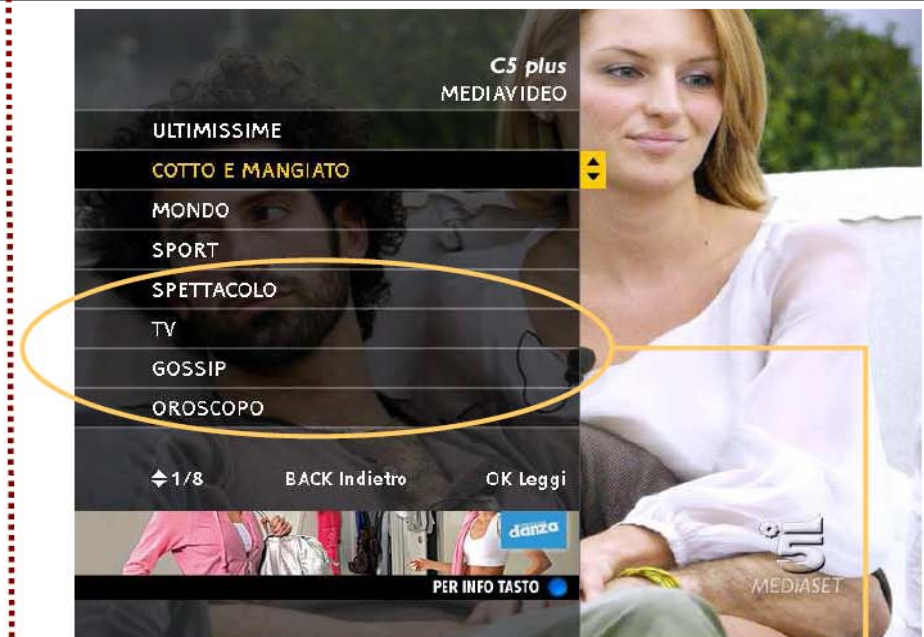
Italian Hybrid Broadband TV (HBBTV) in an MHP Environment

MEDIASET-DTTV

## Mediavideo – Main Items



**SD (TRADIZIONAL) VERSION** (all the data are broadcasted, no broadband/IP connection)



**HD EXTENDED VERSION** (IP connection available)

Also in this case four more Mediavideo (digital teletext) xlet/application are downloaded via back channel.

## Italian Hybrid Broadband TV (HBBTV) in an MHP Environment

MEDIASET-DTTV

### In-depth explanatory box



SD (TRADITIONAL) VERSION (all the data are broadcasted, no broadband/IP connection)

The text of the news selected is shown (= title, in yellow, and body text)

The user experience stops here



HD EXTENDED VERSION (IP connection available)

The page contains the recipe ingredients and explains how to prepare it (in textual way). In addition, by pressing OK the viewer could access to a complementary video (streamed via back channel) that illustrates and shows that info.

The user experience goes on (see next slide)

## Italian Hybrid Broadband TV (HBBTV) in an MHP Environment

- Streamed Video over the IP Back Channel

MEDIASET-DTTV

### Recipe video streaming



The screenshot shows a video player interface. In the top left corner, there is a logo for 'M plus'. In the top right corner, there is a button labeled 'EXIT Esci'. The main content is a video frame showing a plate of fusilli pasta with a creamy sauce and fresh dill. Below the video frame, the text reads 'FUSILLI MIMOSA - Un piatto per tutte le stagioni'.

Video streaming page.

Recipe name below the video streaming area.

***This page is visible only in broadband mode!***

## MHP-OCAP-GEM Deployments and RFP/Trials

### Digital Terrestrial Television DVB (GEM) Based Product

- AndorraMHP 1.0.3
  - Austria MHP 1.1.2
  - Finland MHP 1.0.3
  - Germany Available on Satellite (via SES Astra) MHP 1.0.3
  - Italy MHP 1.0.3/1.1.2
  - Norway (2009 MHP Ready)MHP 1.1.2
  - Poland Selected MHP 1.2 in 2009
  - Saudi Arabia MHP 1.0.3
  - Spain MHP 1.0.3 (Barcelona region in the main) N.B Many Government Trials around the country but low volumes
  - Taiwan DTT MHP 1.0.3
  - Korea KBS (Terrestrial) ACAP (GEM Hybrid with KT IPTV)
  - Korea SBS (Terrestrial) ACAP (GEM Hybrid with KT IPTV)
  - Korea MBC (Terrestrial) ACAP (GEM Hybrid with KT IPTV)
  - Korea EBS (Terrestrial) ACAP (GEM Hybrid with KT IPTV)
- And trials in Australia, Argentina, Brunei, Czech Republic, Denmark, Hungary, Malaysia, Sweden, Uruguay and Vietnam.ASEAN Nations to Consider the Adoption of MHP.

## MHP-OCAP-GEM Deployments and RFP/Trials – Europe and USA

### European PayTV Cable & Satellite Companies

#### DVB (GEM) Based Product

- ONO Spain MHP 1.2
- MMPolska MHP 1.1.2
- ITI Poland MHP 1.1.2
- Telenet Belgium MHP 1.1.2
- INDI Belgium MHP 1.1.2
- Unity Media Germany MHP 1.2
- KDG Germany GEM Compliant (MHP1.2)
- Naxoo Switzerland MHP 1.1.3
- UPC (Liberty Global)RFP for MHP 1.2
- Liwest MHP 1.1.3
- Salzburg AG MHP 1.1.3
- Vectra MHP 1.1.3
- Hello HD (Hungary Satellite) MHP 1.1.3
- Finnish Cable MHP 1.0.3 (Must carry DTT)
- SES Astra MHP 1.0.3 (Italian & German DTT retransmission)

### North American Pay TV Cable Companies

#### DVB (GEM) Based Product

- BrightHouse tru2way
- Cablevision tru2way
- Comcast tru2way
- Cox Communications tru2way
- Time Warner Cable tru2way
- Videotron Canada tru2way

## MHP-OCAP-GEM Deployments and RFP/Trials - Far East

### **South Korean Pay TV Cable & Satellite & IPTV Companies DVB (GEM) Based Product**

- BSI tru2way
- CJ CableNet tru2way
- C&M tru2way
- CMB tru2way
- GS tru2way
- KDMC tru2way
- QRIX tru2way

- SKYLIFE MHP 1.1.2

- Korea Telecom GEM-IPTV
- LG Dacom GEM-IPTV

### **Taiwanese Cable Companies DVB (GEM) Based Product**

- KBRo Taiwan MHP 1.2
- CNS Taiwan MHP 1.2
- TBC Taiwan MHP 1.2

Thank You – *Alticast GmbH – Munchener Strasse 7 – Frankfurt am Main - Germany*



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