

# IDATE Consulting

Understanding the Digital World



**Advanced TV services for all,  
available now with Hybrid  
Broadcast Broadband TV  
solutions**



**eutelsat**  
COMMUNICATIONS



**DIGIWORLD**  
by IDATE

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This paper, produced by Idate in partnership with Eutelsat and Orange Group, reflects a shared vision on Hybrid Broadcast Broadband TV.

Idate, Eutelsat and Orange Group may each have a broader vision on the overall prospects for Connected TV.

## Executive Summary

The “Digital Agenda for Europe, a 2020 Europe Initiative” driven by the European Commission, highlights the synergies between traditional TV and the Internet: “Audiovisual media content has reached non-TV screens and Internet content is now available on traditional TV screens”.

On-demand services and the multiplication of TV-enabled devices are accelerating the adoption of new TV consumption patterns: “Any Time, Any Where, Any Device and Any Content”. As choice becomes more complex, linear and on-demand TV services are increasingly integrated with social networks. At the same time, the boom of HD channels is constantly improving the quality of TV services, and Ultra High Definition Television is already positioned as the next milestone in this market.

Hybrid Broadcast Broadband TV unites the complementary assets of broadcast TV and broadband Internet, providing high quality linear TV and a best-in-class on-demand TV experience now and cost efficiently. This quick to market solution combines the advantages of broadband for delivering individual choice of on-demand content with the efficiency of broadcasting for homogeneous, live, quality TV available simultaneously to a large audience. This new ecosystem, among others, benefits broadcasters, TV platforms, telcos and consumer electronics manufacturers.

Hybrid TV is already a reality:

- Dozens of broadcast TV packagers worldwide have launched hybrid services to provide advanced TV services on a national scale,
- TV channels use hybrid TV solutions to provide the link between linear and on-demand TV,
- A number of telcos are increasing the reach of their linear TV services through hybrid TV solutions. Others use this model to optimize their video distribution.
- Consumer electronics manufacturers are exploiting the potential of Hybrid Broadcast Broadband TV solutions with their next generation devices.

Hybrid TV solutions are proving their value in any national broadcast landscape. In legacy broadcast TV countries, hybrid is needed to bring integrated advanced TV services to all. In largely wired TV countries, it is needed to bring a best-in-class TV experience to all broadband subscribers.

Finally, consumers are the main beneficiaries of Hybrid Broadcast Broadband TV solutions, enabling them to benefit from advanced TV with best-in-class quality of experience, whatever their location.

For all these reasons, hybrid models are a key enabler of TV in the 21st century.

## 1. TV consumption modes are changing

### 1.1. On-demand and social networks are redefining the TV experience

**On-demand services and the multiplication of TV-enabled devices are accelerating Any Time, Any Where, Any Device and Any Content<sup>1</sup> TV consumption.**

For an average consumer in Europe, linear TV accounted in 2012 for a viewing time of over three hours, whereas time spent on on-demand represented only a few minutes. However, consumption is increasing for on-demand video services that include non-linear TV (notably catch-up TV), as well as Internet video / OTT and PVR<sup>2</sup> solutions.

Moreover, as a consequence of multi-room TV solutions, audiovisual consumption is no longer limited to the living room. It addresses all screens of the connected home and extends to multiscreen distribution to PCs, smartphones and tablets. Video is also available outdoor through wireless (Wi-Fi) or cellular.

Originally a product of viral platforms such as YouTube and Dailymotion that host user generated content, the proliferation of online audiovisual content is expanding to professional TV programs, opening up new opportunities for vast catalogues of audiovisual content available on demand.

As multitasking habits expand and premium content becomes available anytime, more video is being integrated on main Internet platforms. ATAWADAC<sup>3</sup> therefore results in an increase of audiovisual content consumption. Whereas the viewing time of linear TV channels may be partly cannibalized by on-demand viewing, these delinearized services also represent an opportunity to increase channel audience.

**Table 1: Monthly audiovisual time spent in hours: minutes in the USA<sup>4</sup>**

Audiovisual usage	Q3-2011	Q3 -2012	% Diff. Yr to Yr	Time diff. Yr to Yr
On traditional TV <sup>o</sup>	146:45	<b>148:03</b>	+1%	1:18
Watching time shifted TV <sup>o</sup> (all at homes)	10:51	<b>11:30</b>	+6%	0:39
Using a DVD/Blue Ray device	06:18	<b>05:17</b>	-16%	-1:01
Using a Game Console	06:51	<b>06:38</b>	-3%	-0:13
Using the Internet on a Computer <sup>+</sup>	28:33	<b>28:58</b>	+1%	0:25
Watching video on the Internet <sup>+</sup> <sup>◇</sup>	05:06	<b>06:59</b>	+37%	1:53
Video consumption on a Mobile Phone	04:47	<b>05:25</b>	+13%	0:38

Source: Nielsen

#### TV gets personal and social

As choice becomes more complex, linear and on-demand services will increasingly be integrated with social networks. More generally, on-demand leads to a more individualized experience for viewers, who mix content from legacy players with content sourced from wide catalogues. This makes the ability to recommend the right content at the right moment a key condition for a quality video experience. Social networks are set to play a driving role in this recommendation process; making broadcasters increasingly dependent on the community of viewers to promote and generate attention around their events.

Alternatively, a recommendation engine - based on past consumption and comparable user profiles - is another route to suggesting content.

<sup>1</sup> Referred later as "ATAWADAC"

<sup>2</sup> Personal Video Recorder

<sup>3</sup> Any Time AnyWhere Any Device, Any Content

<sup>4</sup> <sup>o</sup> On traditional TV includes "Live usage" plus **any playback viewing** within the measurement period.

Timeshifted TV is playback primarily on a DVR but includes playback from VOD, DVD recorders, server based DVR's and services like Start Over.

<sup>+</sup>, <sup>◇</sup>: Evolution in Nielsen methodology, low impact on trends!

## 1.2. A constantly improving quality of experience

### Consumers benefit from regular progress in TV quality

Since the progressive digitization of television services in the 1990s, consumers have successively benefited from higher quality TV, first with standard digital TV, followed by High Definition TV (HDTV).

"Blu-ray like quality" VOD services have been developed on TV networks and through the Internet. Examples in the USA are Push VOD services from DirecTV or DISH satellite services and specific VOD platforms like VUDU or Apple TV.

The next frontier in terms of TV quality is already identified: Ultra High Definition (UHDTV) represents four times the resolution of HDTV or Blu-ray. Consumer electronics manufacturers presented the first UHDTV sets in 2012 and trial satellite broadcasting began in early 2013.

### The TV experience is enhanced by additional services

The consumer's linear TV experience is being progressively enhanced through additional information and services relating to a program being watched. The most popular features include more detailed information through the electronic TV program guide, data on live events such as sports statistics, interaction during TV games and talent and reality shows. Consumers are also benefiting from "TV broadcast independent services" such as weather forecasts or road traffic conditions.

Consumers manage this interactivity on the TV screen or through a companion device (smartphone, tablet).

### The need for intuitive and unified interfaces

Unified interfaces are vital for dealing with this abundance of content from different sources and consumed through different networks and devices. Confronted with a multiplicity of linear and non-linear services, consumers need tools to:

- Bridge linear TV channels and catch-up programs,
- Select content on one device and view it on another,
- Search across different sources,
- Receive recommendations from social networks.

These commonly required functionalities need to be embedded in one unique, user friendly, device-agnostic interface. One illustration of this type of service is proposed by the RVU system adopted by DirecTV. It allows access from any TV in the house, through the same interface, to the entire content that the household is entitled to receive or has recorded.

## 2. The rationale for Hybrid Broadcast Broadband TV

### Broadcast networks are well suited to providing homogeneous TV quality on a national scale, but they lack interactivity

As demonstrated by the introduction of HDTV through satellite and DTT, broadcast TV networks have pioneered the transition to high quality TV services and consistently play a leading role in the introduction of new TV standards. They are able to deliver new services overnight on a national scale.

However, broadcast networks do not benefit from the native return path which is needed to deliver advanced TV services.

### Broadband operators can deliver on-demand content and full-scale interactivity but their geographic reach for TV services is limited

Through their IP client-server based infrastructure, broadband networks provide a personal link between the consumer and content, and can handle management of large catalogues of audiovisual content in high-capacity storage centers, making "Any Content, Any Time, Any Device" a reality. However, the penetration of their TV services remains constrained by their network coverage.

### Connected consumer electronics devices are flourishing but the promise of the Connected TV market remains to be confirmed

Connected TVs, hybrid set-top-boxes and Internet video streaming boxes are fast developing in the market. A number of standards, which can be natively implemented in connected TVs or stand-alone devices, are also available for hybrid broadcast broadband TV integration<sup>5</sup>. Moreover, the progressive implementation of CI+ Common Interface solutions in TV devices is facilitating the integration of encrypted TV channels. With a Connected TV, customers are benefiting from an enhanced user experience thanks to:

- Plug and play installations,
- A single remote control,
- Seamless integration of linear and non-linear TV services.

However, these opportunities have not fully materialized, mainly because of the continued heterogeneity of connected TV platforms and solutions, the still to be improved link between linear and on-demand TV and user interfaces that remain too complex.

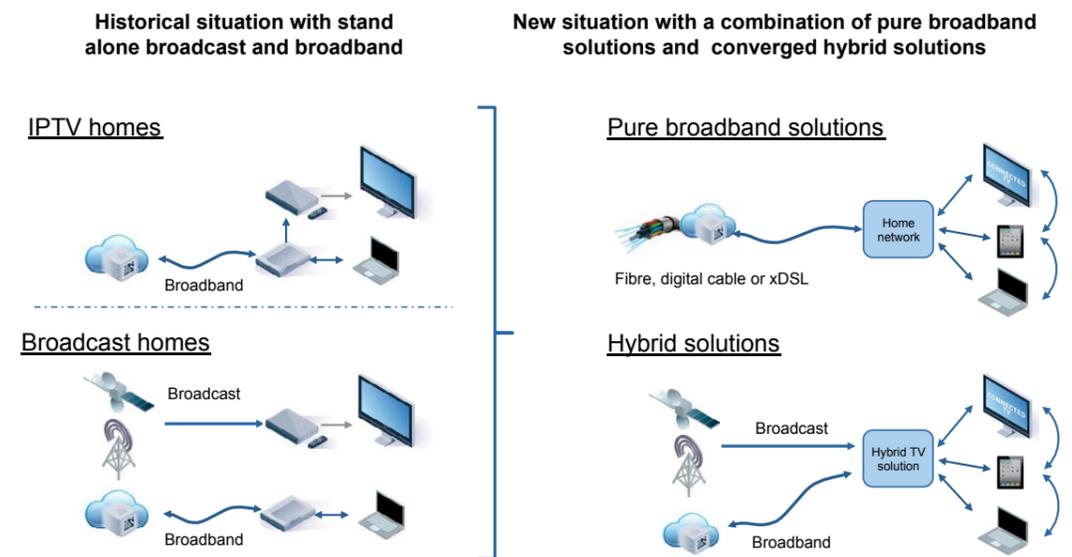
### The complementary assets of broadcast and broadband operators enable widescale provision of a combination of homogenous quality linear TV with on demand TV services

Hybrid Broadcast Broadband TV combines the advantages of broadband for delivering individual choice of on-demand content with the efficiency of broadcasting (Satellite, Digital Terrestrial) for making high quality TV simultaneously available to a large audience.

Hybrid TV solutions also require very short time-to-market implementation of linear and non-linear TV services for consumers.

<sup>5</sup> in Europe (HbbTV, YouView,...), in Japan (Hybridcast), in South Korea (Open Hybrid TV) or in the USA (ATSC 2.0)

Figure 1: Hybrid Broadcast Broadband TV framework



Source: IDATE

### 3. Hybrid Broadcast Broadband currently serving multiple objectives

Hybrid solutions involve a wide range of implementation options: there is no “one size fits all” framework. The focus in this section is on the most common service architectures driven by broadcast TV players, telcos and consumer electronics manufacturers.

**Numerous free and pay-TV platforms have already leveraged new hybrid solutions to enhance their linear TV service line-up by integrating on-demand TV services.**

TV platforms such as Sky, DirecTV, Freesat and Fransat use a hybrid broadcast-broadband set-top-box to deliver live TV and on demand services to their customers.

**A number of telcos are also using hybrid broadcast broadband solutions to extend their IPTV services (multicast linear TV services). Others are enriching self-managed VOD services with broadcast TV services.**

Hybrid Broadcast Broadband solutions are being rolled out by players that include Telecom Italia, Deutsche Telekom, BT and Orange.

**The most recent generations of consumer electronics devices are providing a user experience that merges broadcast and broadband services.**

Several integrated connected TV displays (e.g. Samsung) and set-top-boxes bringing Internet connectivity to the TV set (e.g. Roku or Boxee<sup>6</sup> in the USA) are natively integrating broadcast television and broadband on-demand services. This progressive standardization of technologies is paving the way to providing a unified platform to the end user and to improving the quality of experience of the “connected user”.

**Table 2 : Overview of the benefits of Hybrid Broadcast Broadband TV**

	Broadcast TV services	Telcos	Consumer Electronics
<b>Hybrid modes<sup>7</sup></b>	DTH/DTT + on-demand services	DTH/DTT + IPTV DTH/DTT + VOD	DTH/DTT + on-demand services
<b>Benefits</b>	Terrestrial and Satellite TV services enhance their value proposition with on-demand services	A number of telcos increase TV reach with Hybrid TV Others enrich their VoD services with existing broadcast TV services	Consumer electronics devices take advantage of the combined potential of broadcast broadband TV solutions
<b>Examples</b>	Sky TV, DirecTV	Orange, Deutsche Telekom, Telecom Italia, BT	Samsung, Roku

Source: IDATE

<sup>6</sup> Acquired by Samsung in July 2013

### 3.1. Terrestrial and Satellite TV services enhance their value proposition with on-demand services

**Dozens of TV groups worldwide have launched hybrid services**

Broadcast TV channels and TV platforms are enhancing their value proposition by bundling linear services with on-demand video. Catch-up TV has so far been one of the main drivers.

**Figure 2: Examples of bundled Terrestrial and Satellite TV Broadcast Broadband services**



Source: IDATE

**Pay-TV platform operators provide advanced TV services to all their subscribers**

In order to adapt to the new TV consumption environment, pay-TV platform operators have developed Hybrid Broadcast Broadband solutions through hybrid set-top-boxes in order to deliver Catch-up TV and VOD as premium TV services (e.g. CanalSat “+Le Cube” or “Sky+ HD Box”).

They are adapting to new TV consumer needs with full-scale non-linear video services and a TV-centric end-user experience on more connected devices.

<sup>7</sup> Cable operators’ framework could be similar to IPTV telcos, even if their potential reach is not dependent on copper lines

There are some implementation exceptions to general cases presented in the table. e.g. in the UK :

- Sky Digital is also an ISP and can deliver on-demand content “On-net” through Sky Broadband.
- BT Vision provides VOD, some IPTV channels, and DTT services
- BT’s Youview integrates UK DTT channels and Youview on-demand services via its box. Youview catch-up TV and an on-demand catalogue is delivered through BT’s network (BT Vision is optionally available).

**Case Study 1 : DirecTV (USA)****What is it?**

DirecTV, a leading DTH operator in the USA, has deployed a threefold strategy in order to enhance its customers' TV experience in the new connected TV environment. The group offers subscribers numerous broadcast TV channels and VOD content through a unique DVR set-top-box. It has developed "TV Everywhere solutions" and presents a unified TV experience on all screens.

**What is the service line-up?**

DirecTV Hybrid Broadcast Broadband TV is based on an extensive line-up of up to 285 TV channels (of which 190 HD) and a "DirecTV On Demand" line-up which includes a library of up to 10,000 programs and films :

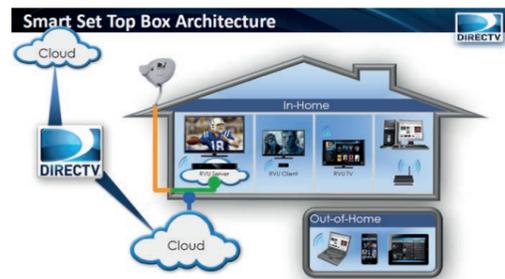
- TV programs: Catch-up of missed episodes - or entire seasons - of popular TV series. Includes old favorites and new TV shows in addition to early previews of select shows up to 30 days before their regular TV broadcast.
- DirecTV Cinema: Hollywood blockbusters with new films every week, many available a month before Netflix. Films are also available in 1080p HD, i.e. with a Blu-ray like image quality.
- Film library: drama, comedy, romance, documentaries, classics; box office hits broadcast on HBO, Cinemax, Starz, and Showtime.

Subscribers also have access to YouTube, Pandora Internet radio and numerous Internet services on their TV set.

DirecTV provides "TV everywhere" features enabling streaming of live TV and on-demand films and TV shows on several TV sets, computers, tablets and smartphones. The DirecTV experience is harmonized on all devices, through a unique user interface, whatever the device.

**How does it work?**

"DirecTV On Demand" is accessible on all DirecTV DVR set top boxes. It must be connected to a satellite dish and to broadband.



The unified experience is possible thanks to a new set top box which acts as a home gateway, providing TV channels and DVR content and a unique remote user interface (powered by the RVU standard) to any TV screen in the house. This standard has already been embedded in several smart TV models (Samsung, Sony, Sharp) allowing subscribers to access DirecTV services without an additional set-top-box.

**Benefits**

DirecTV subscribers benefit from a best-in-class bundle of linear and on demand TV services with the best possible quality (1080p) for some services.

Enriching its value proposition with on-demand content and TV everywhere solutions, DirecTV remains a top TV player in the highly competitive US TV market. In 2012, DirecTV US revenues increased 6% to 23 billion USD driven by strong ARPU growth and a larger subscriber base. DirecTV reported that monthly ARPU increased 4% to 97 USD.

**Future developments**

DirecTV is currently deploying its unified TV experience (based on RVU 1.0) in Latin America. In parallel, it is promoting new generations of the RVU standard (2.0) that further improves the user experience (thanks to HTML5), addresses smart TV sets and mobile devices directly and enables streaming of UHD content.

Source: IDATE

**TV channels rely on hybrid TV to provide a consistent TV-centric end-user experience on all devices**

Although some on-demand experience has been provided by TV channels (pay-per-view, teletext ...) in the past, Hybrid Broadcast Broadband TV is key to providing a true and consistent TV-centric end-user experience on all devices.

**Case study 2: Freesat (UK)****What is it?**

Freesat is a free satellite TV platform launched in May 2008 in the UK. It includes a broad TV and radio line-up, catch-up TV services and YouTube through a "super smart" user experience.

**What is the service line-up?**

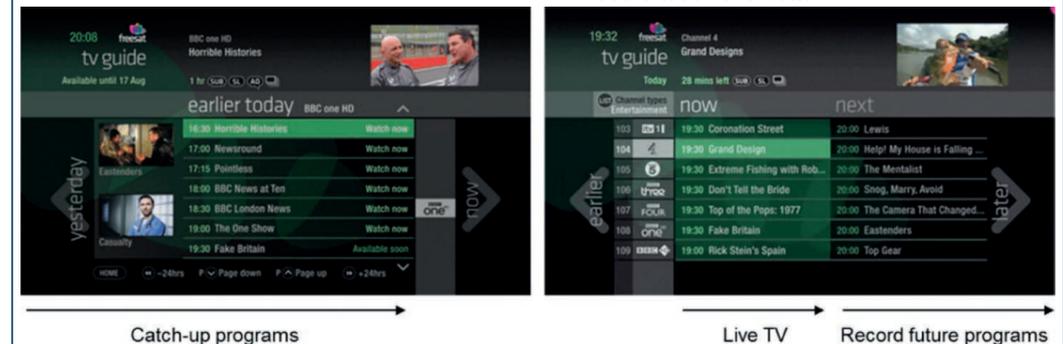
180 linear TV channels and radio stations are accessible via a simple set-top-box. A full experience is provided on higher-end models through the Freetime service that grants access to the linear TV channels and an extensive line-up of free VOD services (catch-up services from the UK's four leading broadcasters and YouTube).

Freetime is an award-winning TV guide, which gives the viewer full control of his or her TV viewing patterns. The viewer can navigate through past, present and future programs thanks to a seamless timeline. Content is delivered by both broadcast and broadband infrastructures.

**Backwards TV guide** enabling viewers to watch programs that have already aired (catch-up programs from different broadcasters), accessing broadband delivered content.

**Now and Next** program information within the TV guide accessing broadcast delivered content:

- Live TV, pause and rewind live
- Advanced recording: record a whole series, at the touch of a button



Source : Freesat

Freetime also provides editorialized recommendations :

**How does it work?**

The Freetime service is available through specific hybrid set-top-boxes distributed in retail stores. Boxes need to be connected to a satellite dish and the Internet. Freesat is also available through Panasonic and Samsung Smart TVs.

The service runs mainly on new open technologies (Open IPTV Forum, HbbTV, HTML5) but also supports the legacy UK interactive TV standard (MHEG-5) to access catch-up TV services.

**Benefits**

Freesat is the fastest growing digital TV platform in the UK (15% growth over the past year) with over 1.8 million homes (reaching four million people)

Broadcasters can maximize the audience of their content by providing it intuitively, at any time.

End users can access UK free-of-charge video content with a cutting edge user experience. They benefit from high quality broadcast content and an extensive on-demand video catalog.

**Future developments**

The evolution of the Freetime service will include a remote application for smartphones and tablets.

Freesat content line-up will extend to additional film and music services and new HDTV channels in 2014 (notably five from the BBC).

Source: IDATE

For free television, using transparent networks such as satellite or DTT implies that broadcasters can easily integrate linear, catch-up and pay-VOD services. This enables broadcasters to build a direct relationship with viewers (loyalty) alongside linear TV while interactive and social TV and new on-demand services may generate incremental revenues. The significance of this model is demonstrated by the level of involvement of TV channels in Freesat and YouView<sup>8</sup> in the UK and in the HbbTV forum in many other European countries<sup>9</sup>.

### 3.2. Telcos continue increasing TV reach and TV service line-up with Hybrid Broadcast Broadband TV

Leading telcos such as Telecom Italia, Deutsche Telekom, Telefonica and Orange are using hybrid solutions.

Telcos are very proactive in the hybrid TV market, launching services for different purposes depending on their TV line-up, market reach and positioning in the TV market. This trend is developing globally.

Figure 3: Examples of Telcos Broadcast Broadband TV



Source: IDATE

#### IPTV operators are increasing their TV reach and enhancing their value proposition

Leveraging broadcast TV coverage, IPTV operators are targeting full national reach “overnight” for their Advanced TV services for existing and new addressable customers.

In June 2008, Orange, launched a satellite TV platform in France in partnership with Eutelsat and SES in order to increase the penetration of its TV offer beyond its IPTV footprint. Orange Broadband subscribers choosing the offer benefit from the full advanced TV service line-up of Orange, even in non IPTV areas. Deutsche Telekom’s similar strategy in Germany has also met with success: the company launched Entertain via satellite in 2011. Eighteen months later (at the end of 2012) the service, based on a hybrid TV model, had 300 000 subscribers, representing 15% of its TV service customer base. Even in heavily fibred countries like South Korea, KT became the leading IPTV operator thanks to a bundled offer with the Skylife satellite service.

<sup>8</sup> UK’s biggest names in TV with BBC, Channel 4, Channel 5, ITV

<sup>9</sup> Audiovisual players in around 20 European markets have adopted HbbTV or are in a trial phase. Germany and France are at the forefront in terms of regular operation.

### Case Study 3: Olleh TV Skylife, by Korea Telecom (South Korea)

#### What is it?

Launched in August 2009, Olleh TV Skylife was the world’s first combined DTH TV channel service + VOD. Olleh TV Skylife (OTS) is provided by Korea Telecom and its subsidiary Skylife DTH.



#### What is the service line-up?

Skylife DTH offers the largest range of TV channels in Korea (211) as well as the most HDTV channels (85) and also launched the world’s first 24-hour 3D channel.

On top of Skylife DTH channels, OTS offers 90 000 VOD contents, surpassing cable and IPTV competitors in terms of number of TV channels, HD services and its VOD line up.

OTS is part of a triple play offer that includes broadband and Voice over IP.

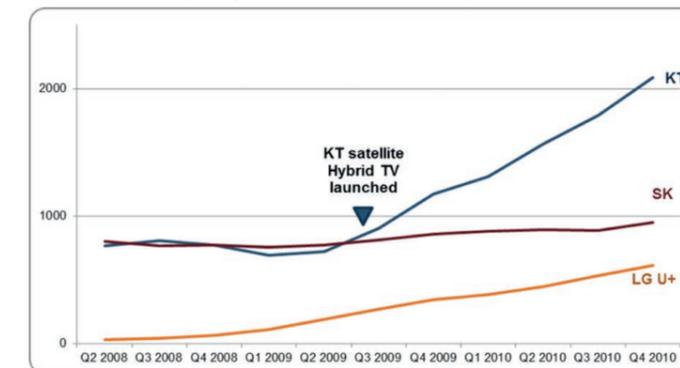
#### How does it work?

KT subscribers can select the optional OTS offer to benefit from satellite broadcast TV channels and VOD services. Users need to be equipped with a satellite dish, a modem and a hybrid set top box.

#### Benefits

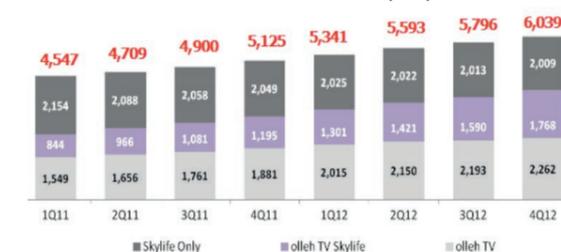
- For KT: after adopting the OTS hybrid platform, Korea Telecom was perceived to be superior to cable TV or competitor IPTV platforms and became Kore’s leading IPTV player.

IPTV subscriber growth in South Korea, per operator (000)



Source : IDATE based on operators

KT Media subscribers (000)



- For end users: OTS subscribers enjoy the largest TV / VOD offer on the market, including the most HDTV channels and 3DTV.

#### Future developments

KT Skylife is working on next generation TV experiences, including a UHDTV trial leveraging satellite capacities.

Source: IDATE

### Telco VOD operators enhance their video line-up with linear TV

Telcos only focusing on VOD can enhance their service line-up with a mix of broadcast linear TV and broadband on-demand video services. They focus on their own VOD services, allowing the provision of high-quality VOD compared to third party broadband video services<sup>10</sup> while benefiting at the same time from existing linear TV channels broadcast on DTT or by satellite.

Of the operators who have opted for this strategy it is worth mentioning Telecom Italia with its Cubovision integrated VOD + DTT box and BT Vision which started on the same framework before adding some multicast TV channels. Meanwhile, Telstra, the incumbent operator in Australia, merged free DTT channels with its BigPond VOD and Internet TV offer through a 320 GB / 2 tuners PVR to target the widest possible audience.

#### Case Study 4 : Orange Polska (Poland)

##### What is it?

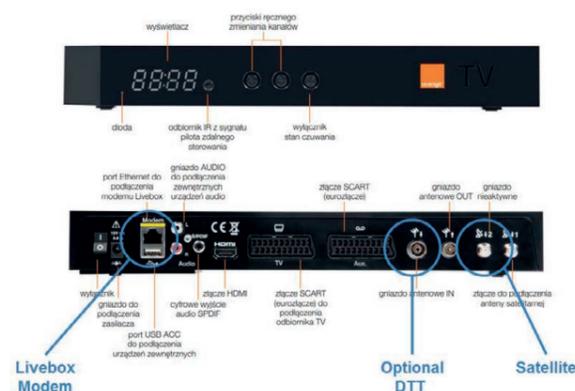
In 2012, Orange Polska, promoted a bundle of broadband and digital TV offers through both IPTV and satellite networks. This move was pushed further following the partnership with the newly formed NC+ satellite TV platform (Canal+, Liberty Global and TVN). NC+ is offered as an option by Orange on its satellite and IPTV platforms.

##### What is the service line-up?

Both the Orange TV and NC+ TV&VOD service line-up are available for subscription. Depending on the subscription tier, the VOD service line-up can include one or both Orange TV and NC+ VOD services.

##### How does it work?

Households not technically eligible for Orange IP TV services can subscribe to the Orange satellite TV offer and equally benefit from both linear and on demand TV services. They need to install a satellite dish and the hybrid set-top-box. Orange Polska has unified its broadcast services on one common middleware and content protection platform which offers the only universal set-top-box in the group. The hybrid broadcast broadband TV box provided by Orange TV integrates IP, DTH and optional DTT inputs.



##### Benefits

- End users: non IPTV households can benefit from the full line-up of Orange TV, irrespective of their location.
- Orange TV: it enhances its TV+VOD line-up, for non IPTV subscribers with a satellite offer delivering 41 HDTV channels. Households that are not eligible for IPTV can now be addressed by Orange (with linear and non-linear TV services).
- NC+: bundles its satellite offer with Poland's leading telco, enhancing its value proposition with a full-scale VOD offer and triple play services.

##### Future developments

Both Orange TV and NC+ are focusing on a high-end consumer service through a best-in-class value proposition, which is continuously enhanced by a multi-screen TV delivery strategy. With the addition of mobile networks, Orange's strategy is to maintain its focus on convergence as a differentiator.

Source: IDATE

<sup>10</sup> The most popular Internet video services can also be integrated in their video services' lineup.

### 3.3. Consumer electronics devices leverage the combined potential of Broadcast Broadband TV solutions

**A new generation of consumer electronics devices is facilitating the connection of the TV set to the Internet in order to deliver a new customer experience.**

Consumer Electronics manufacturers are proposing a hybrid "ready to go" advanced TV solution through the integration of broadcast digital TV tuners, Internet connectivity, a unified interface and packaged over-the-top services and TV applications.

**Figure 4: Examples of Consumer electronics devices for the Hybrid Broadcast Broadband TV experience**



Source: IDATE

#### Streaming media boxes are bundled with broadcast linear TV

Stand-alone devices, generally powered by OTT video services packagers, can include broadcast capabilities to access both free TV channels (through DTT or satellite) and on-demand services. Boxee, in the USA, is a cornerstone example of this strategy.

#### TV set-top-box providers are developing hybrid TV options to provide higher end equipment and to avoid commoditization

TV set-top-boxes providers are also moving to hybrid television, integrating IP functionalities with Media Player for photos, video and audio playback, PVR functionalities, Internet video services, web browsing on TV...

Key set-top-box providers are proposing hybrid solutions. Netgem is developing the Viaplay box in Sweden, Humax is partnering with the Youview hybrid offer in the UK.

#### TV set manufacturers are shoring up their position in the audiovisual chain

TV set manufacturers are benefiting from a new cycle of consumer equipment renewal, which can increase the exposure of their services portal and strengthen their position in the fast-developing multi-screen world.

This strategy, developed for instance by Samsung with Eutelsat/Fransat for France, embeds linear TV and on-demand TV services directly within the connected TV set under a unified interface.

### Case Study 5 : Samsung-Eutelsat/Fransat (France)

#### What is it?

Samsung and the Fransat (Eutelsat Group) free-to-view satellite TV platform partnered in France in order to provide advanced TV services to viewers without the need of an external set-top-box. "Fransat by Samsung" is one of the first TV set "plug and play" hybrid satellite broadcast-broadband TV offers on the market.

#### What is the service line-up?

The offer includes the Fransat DTH linear TV line up comprising 64 TV channels (of which 10 in HD) including France's national and regional free DTT channels and radio stations. Pay TV content (e.g. the BIS platform and beIN SPORT) are also available in option.

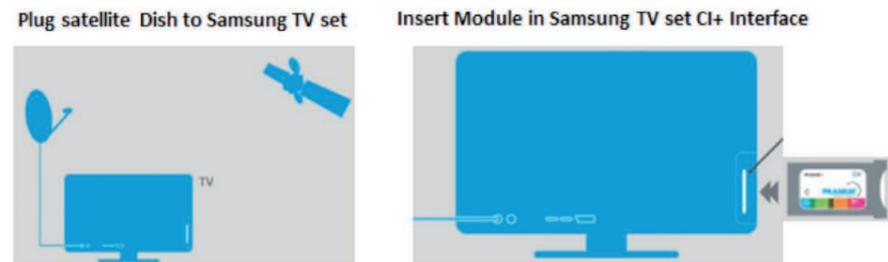
Users also benefit from on-demand services provided by the Samsung Smart TV portal and HbbTV services provided by TV channels', including the start-over TV service (France TV - Salto) and from the Fransat platform (Fransat Connect).

The "Fransat by Samsung" package is a subscription-free offer, through Samsung TV sets that are available in retail stores.

#### How does it work?

Consumers need a Samsung Smart TV set integrating a DVB-S2 tuner and an HbbTV browser, a Conditional Access Module (CAM) and a satellite dish connected to the TV set. The module also manages Samsung's TV set PVR functionality (program recording, authorized time period to watch a specific content...).

The Samsung/Fransat hybrid service is a subscription free offer. The recommended retail price for the Fransat card+ CAM is 129 EUR.



#### Benefits

- End users: a plug and play hybrid TV solution is available nationwide, and includes France's HD DTT channels in France (immediate availability, compared to progressive deployment of the terrestrial HD network)
- Retailers: bundle Samsung high end TV sets with the Fransat card and CAM.
- Samsung: promotion of high end TV sets
- Fransat: enhances viewer TV experience. This partnership is currently the primary vehicle of Fransat HD card distribution.

#### Future developments

The next version of the Fransat module (CAM) will enable the offer to run through any new TV set (supporting the CI+ 1.3 standard) as the module will directly manage the Fransat TV channel list information.

Source: IDATE

## 4. Opportunities for hybrid TV solutions depend on specific features of national markets

### Hybrid Broadcast Broadband TV prospects vary according to each country's broadcast and broadband landscape.

TV reception modes still vary strongly from one country to another. A significant number of markets largely rely on broadcast TV networks (DTT and satellite) to deliver linear television. In other countries, the majority of TV households rely on wired networks (Cable or IPTV) for TV reception.

Table 3 : Segmentation of 22 representative markets by broadcasting (DTT+DBS) TV reception share, as of end 2012

Category	Digital TV TV households	Countries
Legacy broadcast TV countries	>60%	Italy, Spain, UK, Australia, Brazil, Turkey
Intermediate TV countries	Between 30% and 60%	France, Poland, Mexico, Germany, USA, Japan, Sweden, India, Russia
Largely wired TV countries	<30%	Canada, Argentina, South Korea, Netherlands, China, Belgium, Switzerland

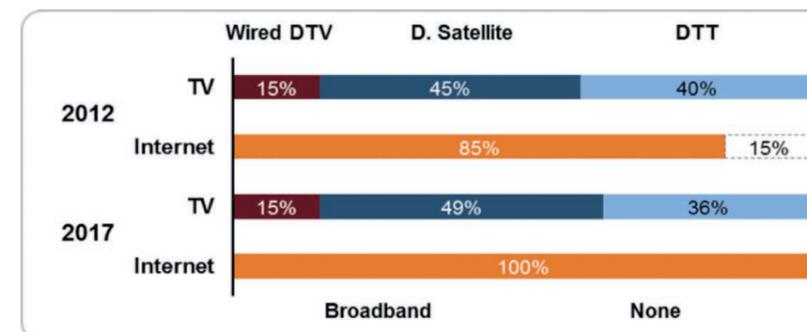
Source: IDATE

### In legacy broadcast TV countries, hybrid is needed to bring integrated advanced TV services to all households

In legacy broadcast countries that rely heavily on satellite or DTT for TV reception, delivering advanced on-demand services to broadcast TV households with a broadband connection can serve as many as 60% of TV households. Without hybrid, these broadcast households would suffer from a "video digital divide".

Key movers in these markets include TV platforms delivering advanced TV services (Sky subsidiaries in the UK and Italy, Freesat in the UK, Digiturk in Turkey) and telco VOD operators (BT Vision in the UK, Telecom Italia with Cubovision in Italy, Telstra with the T-Box in Australia).

Figure 5: Broadcast DTV<sup>11</sup>, Wired DTV<sup>12</sup> and Broadband reach in percentage of TV households, example of UK, 2012 vs. 2017



Source: IDATE

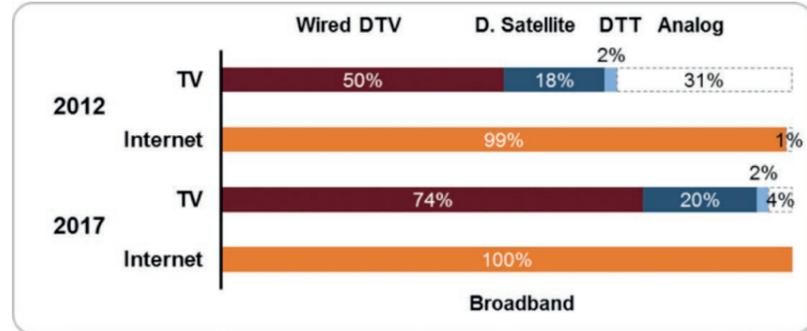
<sup>11</sup> Satellite and DTT Digital Television

<sup>12</sup> Cable and IPTV (fiber and xDSL) Digital Television

In largely wired TV countries, hybrid is also necessary for extending a best-in-class advanced TV experience to all.

Leading IPTV (and digital cable) service providers use broadcast networks to reach customers beyond range of their network and to provide the best-in-class advanced TV experience to their entire subscriber base (e.g. KT in South Korea).

Figure 6: Broadcast DTV, Wired DTV and Broadband Internet reach in percentage of TV households, example of South Korea, 2012 vs. 2017



Source: IDATE

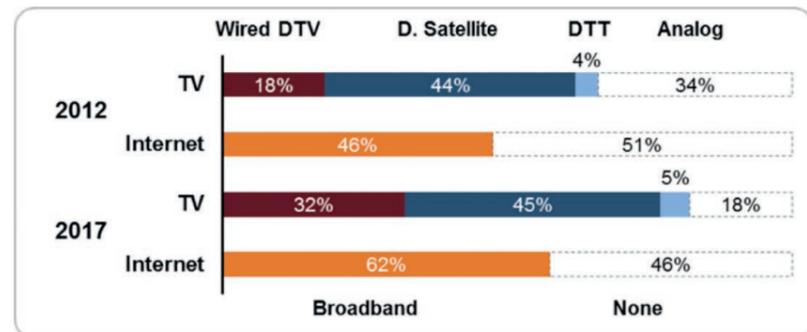
In “intermediate countries”, hybrid TV both provides advanced TV services to broadcast households and helps telcos extend the footprint of IPTV services.

All models of Hybrid TV solutions find their way in the intermediary country configuration, from enhanced IPTV coverage, to “integrated” consumer electronics or broadcast based advanced TV services.

Orange in France and Deutsche Telekom in Germany have each enlarged their footprint through satellite. Merging broadcast and IP is also a growing option in Central and Eastern Europe, for instance in Poland and Slovakia.

On the broadcaster side, numerous players have taken this direction, from pay-TV platform operators to Free TV services (e.g. the Samsung and Fransat joint hybrid-TV offer in France).

Figure 7: Broadcast DTV, Wired DTV and Broadband Internet reach in percentage of TV households, example of Poland, 2012 vs. 2017



Source: IDATE

## 5. Conclusion: Hybrid Broadcast Broadband TV is now available for an ubiquitous and fully converged audiovisual experience in Europe and beyond

The “Digital Agenda for Europe, a 2020 Europe Initiative” driven by the European Commission outlines the synergies between traditional TV and the Internet. “Audiovisual media content has arrived to non-TV screens and Internet content is arriving to the traditional TV screens. () This phenomenon empowers European citizens to seamless and interactive experiences, letting them access any content while being agnostic as to the device or geographic locations from which they interact.”<sup>13</sup> Hybrid Broadcast Broadband TV provides immediate and nationwide answers to the transformations detailed in the Digital Agenda for Europe.

In Europe and beyond, hybrid TV is available for an ubiquitous and fully converged audiovisual world, enabling:

- A connection between linear and non-linear TV services. Whatever the national configuration, there is always a logic for hybrid TV solutions,
- The combination of networks, new technologies and connected TV devices for seamless and interactive experiences. Collaboration between stakeholders should be the driving force to materialize these opportunities, from enhancing TV broadcasters and consumer electronics value proposition to increased reach for telcos,
- A wide variety of video content with high quality for all consumers, irrespective of their location.

At the end of the day, consumers are the main beneficiaries of Hybrid Broadcast Broadband TV solutions. They can benefit from advanced TV with the best-in-class quality of experience. This is especially valid for countries with relatively low broadband penetration where Hybrid TV makes even more sense.

For all these reasons, hybrid TV appears as a key enabler of 21st century television.

Table 4 : Hybrid TV benefits per segment

Target group	Benefits
Consumers	Access to embedded high-quality linear TV and on-demand services, irrespective of location
TV channels and TV platform operators	Provide integrated linear/catch-up TV/VOD services nationwide and direct to consumers.
Telcos	Extend reach of their IPTV services or focus on VOD
Consumer electronics	Leverage their smart devices with both linear television and on-demand services

Source: IDATE

<sup>13</sup> Digital Agenda Introduction, European Commission

## 6. Glossary<sup>14</sup>

Advanced TV: in this white paper, new TV services bringing together ATAWADAC consumption features and always improving quality of TV service.

ATAWADAC: Audiovisual program accessible Any Time, Any Where, through Any Device, within a very large catalogue of contents Any Content.

Audiovisual Media Services Directive (AVMSD)<sup>15</sup>: The Audiovisual Media Services Directive covers all EU audiovisual media services (including on-demand services) in the digital age.

Broadband Internet: a high-speed fixed or mobile connection which allows the fast transmission of large amounts of data.

Catch-up TV: catch-up TV (or Replay TV) is an on-demand service in which TV shows are available for a period of days, generally seven, after the original broadcast

Connected TV: the term refers to the emergence of a range of technical solutions that bring linear TV and the Internet worlds closer together, e.g. TV sets with added Internet connectivity, set-top boxes delivering audiovisual content 'over-the-top', audiovisual services provided via tablets, computers or smartphones.

Convergence: the progressive merger of traditional audiovisual and Internet services.

EPG – Electronic Program Guide: on-screen display of channels and programme data, to aid viewer navigation through the many channels available in digital television.

Free TV: in order to simplify, we chose to use Free TV for subscription-free TV services, which cover:

- Free-to-air broadcasting: means broadcasting, either public service or commercial, channels accessible to the public without paying any specific fee (except license fees and/or the basic tier subscription fees to a cable network).
- Free-to-view broadcasting: means broadcasting of services that may require a one-time activation fee, but with no subsequent cost for viewers. Typically, this takes the form of an encrypted broadcast that needs an access card in order to be decrypted and viewed.

HbbTV: ETSI standard deployed by a number of broadcasters, content providers, networks and consumer device manufacturers in Europe to link broadcast and broadband content.

HDTV: High Definition Television.

Hybrid (Broadcast Broadband) TV: combines the advantages of broadband for delivering individual choice of on-demand content with the efficiency of broadcasting for delivering content (e.g. live sports or entertainment events) simultaneously to a large audience.

<sup>14</sup>IDATE, largely based on "[http://ec.europa.eu/avpolicy/info\\_centre/a\\_z/index\\_en.htm](http://ec.europa.eu/avpolicy/info_centre/a_z/index_en.htm)"

<sup>15</sup>The AVMS Directive covers all audiovisual media services, but distinguishes between "television broadcasting" or "television broadcast" and "on-demand audiovisual media service". In order to describe and distinguish both from each other, the AVMSD introduces the notions of "linear audiovisual media service" for television broadcasting/television broadcast and "non-linear audiovisual media service" for on-demand audiovisual media service.

Interactive advertising: allows the viewer to react via a return path or to interactively explore a chosen environment for as long as he or she wishes.

Interactive TV: refers to a request by an individual transmitted through a 'return channel' to which the service provider replies by supplying individually requested data and services.

IPTV (Internet Protocol Television) delivers digital TV over a broadband connection.

Internet video: includes short-form Internet video (for example, YouTube and other User Generated Content - UGC), long-form Internet video (for example, TV programmes), live Internet video, Internet-video-to-TV (for example, Netflix through Roku), online video purchases and rentals.

Linear audiovisual media service: linear television broadcasting is an "audiovisual media service" provided by a media service provider "for simultaneous viewing of programmes on the basis of a programme schedule".

Networks: communication networks correspond to a complete system of communications between users' terminals. Networks may be "point to point" or "broadcast" (simultaneously to multiple destinations).

On-demand video services: are provided by a media service provider for programme viewing at the moment chosen by the user and at his other individual request on the basis of a catalogue of programmes selected by the media service provider.

OTT (Over-the-top): OTT players provide audiovisual content online generally without themselves being ISPs or network operators / electronic communications services and network providers. OTT is a subset of Internet video.

Pay-TV: users obtain access to additional or premium content in return for a specific fee e.g. regular subscription or 'pay per use':

Personal Video Recorder (PVR): a personal video recorder (PVR) or digital video recorder (DVR) records audiovisual content in a digital format to a disk drive or another memory medium.

Peer to Peer (P2P): content distribution in which digital files are transferred between "peer" computers over the Internet instead of a client/server structure. The vast majority of P2P traffic refers to piracy content downloading

Start Over TV: TV feature enabling a programme already in progress to be restarted.

SVOD: subscription based VOD services include free offers (for premium TV subscribers accessing linked on demand TV content) and monthly fee-based services (for independent services such as Netflix)

VOD: Video-on-demand is an on demand service that enables viewers to order and see a given programme at the exact time the viewer specifies and requires two-way communication. Near-video-on-demand (NVOD) is a near equivalent using only one broadcast channel.



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