
The ABCs of Connected TV

JUNE 2012

ENGLISH VERSION REALIZED THANKS TO THE SUPPORT
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The purpose of this report is to gather, in a practical and principled manner, strategic intelligence available to most companies evolving in the media sector. This information fosters a better understanding of the key issues in the field and enables one to act accordingly. We're proud to bring you the first Canadian report that bridges basic knowledge, current industrial stakes, the latest business models as well as upcoming trends in the Connected Platforms industry worldwide.

Connected TV is the most recent innovation arising from a series of paradigm changes in the last few decades, which have altered the very nature of media content production and dissemination systems.

More than just a new way to access more content, connected TV's main goal is to propel the good old TV set in the living room back to the top of the household screen hierarchy. At the very least, it allows television to regain its title as the central family entertainment hub in the household.

For Evolumedia Group, founded in fall 2011, this report is a concrete opportunity to affirm its mission. The Group's mandate is to **provide strategic intelligence** that would enable **media professionals worldwide** to further their understanding of the major changes in the production and broadcasting of audiovisual and interactive content.

In this new international edition, you will be able to access this exhaustive content directly in the smartmediaplatforms.com directory. You will also have access to links, which will direct you toward additional information on the initiatives discussed in this report, and regular updates.

I do hope that this guide will help you capitalize on new business opportunities in the connected world.



Gilbert Ouellette

PRESIDENT

EVOLUMEDIA GROUP

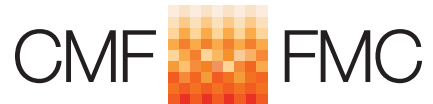
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Over the past decade, manufacturers and the entertainment industry have focused on the Internet and mobile platforms. However, once again they have highlighted television as the quintessential domestic entertainment tool, that is, more than 60 years after its inception. It has been a staple in homes across the planet ever since.

Along with providing an increased image capacity (HD, Blu-ray and 3D), the latest TV sets feature Web interactivity, the fun ergonomics of digital tablets and the sense of community of social networks. They also consolidate institutional content, User Generated Content (UGC), interactive applications and added-value content.

In the midst of this revolution, viewer and internaut alike are expected to become “TVnauts.”

Connected TV thus forges a path to new formatting and a multitude of content pricing models. At the same time, it raises fundamental concerns over bandwidth consumption, geolocation based content restrictions, the nature of the value chain—from production to broadcasting, sale to content archiving—along with new audience loyalty-retention strategies.

These current issues not only affect the leading companies in the media and technology industry, but also over-the-air broadcasters, Internet service Providers (ISP), Telecommunications operators, government regulatory agencies, international distributors, investment and fund agencies along with advertisers.

The ABCs of CONNECTED TV is a streamlined synthesis of connected TV's technological and economic evolution over the last few years; it is based on the most advanced innovations and business models currently out there. This report is intended for media content producers in the film, television and advertising industries on the Web, social networks or the mobile markets.

It is also geared toward over-the-air and multi-platform broadcasters along with anyone directly or indirectly interested in the development of audiovisual content production, broadcasting and distribution practices in a broadband environment.

This report is published by Evolumedia Group and available online at www.smartmediaplatforms.com.

1.1 Definitions (yesterday's features to tomorrow's possibilities)

What we now call “connected TV” is the highest peak of broadcasting technology advancements following the increase of content supply sources, and it bridges the gap between Interactive Media and Social TV.

Connected TV's key innovation is therefore its capacity to blend, in a seamless and user-friendly manner, the following elements:

- 1 – Unidirectional and Bi-directional Interactivity;
- 2 – An increased offering—more and more dematerialized—combining free and paid content offered by over-the-air TV broadcasters and radio stations, Web sites, video game publishers and various Apps and widget developers;
- 3 – Customization, evaluation and recommendation features for video content according to certain criteria and preferences set in the individual user profiles.

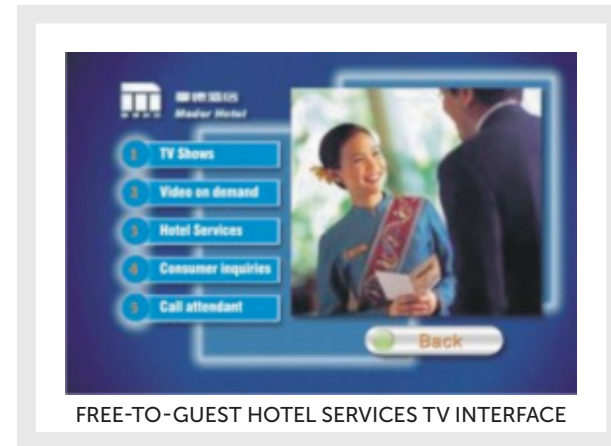
While high-speed Internet connections are now a common reality in the vast majority of regions worldwide and vertical digitizing of the entire production and media broadcasting chain is almost complete, Connected TV has now become much more than a simple HD screen

with high-speed Internet. It is, no more, no less than a true intelligent multimedia entertainment management center (Media Center) that can be synchronized with personal computers, third-generation game consoles as well as mobile and tablets. Connected TV is also a cloud-based personal video recorder (PVR) and a sharing platform, which is dynamically redefining the relationship between consumers, their social network and their favorite brands.

In an era dominated by smartphones, digital tablets and social networks, connected TV is systematically integrated into the latest Smart TV product lines marketed by TV manufacturers, such as Samsung, Panasonic, LG, Sharp and Sony. It is already the new worldwide paradigm for TV.

1.2 Innovations and failures (2001-2011)

Let's revisit 2001 and take a look back at one of the first large-scale commercial breakthroughs in connected TV. That year, Electronics manufacturer Thomson and software editor Microsoft pooled their expertise to create TAK. Through TAK, the viewer was offered Internet access and interactive services, such as a TV guide and Web content from partners, reformatted to meet TV standards using a wireless keyboard, and this, without subscription constraints.



First experiments in Connected TV as we now know it date back to interactive television services developed by hotel chains in the 1980s. Their aim was to offer Free-to-Guest Services, such as the wake-up service, messaging service, video on demand (VOD), customized billing, restaurant reservations, video games, room service, etc., to their guests. Also included was complementary data, such as tourist attractions, local weather forecasts and airline departures updates.



While this type of service was already provided by satellite and cable operators, the integrated solution of TAK, although it was not as successful as expected, still inspired the industry to increase the features of the household TV set in the 2000s. Set-top boxes, or small digital gateways, which connect high-definition television (HDTV) to the Internet, then took over, positioning themselves as a less expensive alternative for watching non-linear VOD content on wifi-less HDTVs.

In the 2000s, Internet Protocol Television (IPTV), which merged live TV, VOD and Catch-up TV, became a premium element in telcoms' packages. Telecommunications companies used it to promote their Triple Play offer (combined service package with cable, telephony and Internet access).

By launching Apple TV, a device initially designed to establish wireless communication between a computer and a television set, in 2007, Apple aimed to expand its prime market—computers and mobile devices—and favorably position the iTunes catalog on flat screen HDTVs.

Four years later, the industry has yet to fully embrace the Apple model. Only FOX and ABC enable viewers to watch their shows (except for first-run movies) on Apple TV; CBS and NBC still refuse to sign an agreement with Apple.

Launched in fall 2010 in the United States with the help of Sony and Logitech, the Google TV platform also experienced lackluster success. Many Hollywood studios did not welcome Google's ambition to apply its hugely successful advertising model, originally designed for the Web, to the television industry without sharing the dividends (23.7 billion US dollars of advertising revenue in 2009). A second version is scheduled for release in 2012 with the support of new partners such as LG.

In the meanwhile, platforms such as Hulu in the United States, TOU. TV in Canada and the long overdue YouView in the United Kingdom are trying to establish themselves in the realm of Catchup TV and exclusive content financed by ad banners and branded pop-up.

More recently, Samsung, Sony and LG have also defined the parameters of the latest TV sets in their own way, blending the features of the most promising connected services (TV, Web, Apps, social networks, metadata). The three leading CE manufacturers are working toward fixing certain recurring deficiencies with universal and user-friendly solutions, such as a keyboard or remote control to improve the browsing experience, downloading, streaming or clouding options in 720p or 1080p resolutions. Lastly, they hope to enhance the growth of this up-and-coming market.

1.3 Current sales statistics and three-to-five-year sales forecasts

It's only a matter of time before connected TV becomes the norm in most of households. At the Consumer Electronic Show (CES) 2011, the research firm Parks Associates predicted that 350 million connected TVs would be sold worldwide by 2015, that is, 118 million in the United States alone and 47 million in Europe. According to research firm iSuppli, more than 70 connected TV models are currently on the market. According to the findings of In-Stat, Web-enabled TV shipments in the United States are increasing at a 94 percent annual growth rate.¹

Until then, important Over-the-Top (OTT) initiatives will be launched around the world. As mentioned earlier, YouView (previously known as Project Canvas), the controversial Trojan horse promoted by the leading British telecom broadcasters and operators, after being announced four years ago, should finally launch this summer, just in time for the 2012 Olympic Games in London.

“On March 31st, YouView confirmed that hundreds of organizations involved in content provision have registered their interest in engaging with YouView as the platform develops. These represent a wide range of free and paid content including, entertainment, mainstream and independent films, music, news, factual, sports, arts and local content.”

EXCERPT FROM **YOUVIEW**'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

We are currently witnessing many public confrontations over proprietary strategies of television manufacturers and over-the-air broadcasters who strive to offer complementary services in order to separate themselves from competitors. These players are facing the tactic of interactive content providers and aggregators, such as Apple TV, Yahoo! Connected TV and Google TV, who benefit from partnering with as many technology providers as possible.

The announcement that analog broadcasting would be eradicated led millions of Westerners to purchase an HDTV. However, the slow economic recovery in the United States makes consumers take on a more cautious approach toward the increase of technological innovations (Full HD, 3D, 1080p, Blu-ray) that causes an accelerated obsolescence of their recent purchases. Along with slowing down the implementation of Connected TVs, this situation stirred up confusion among consumers about the very concept of Connected TV. Far too often, people associate it with IPTV or even a mere Web version for bigger flat TV screens.

The industry therefore needs to accommodate the needs of consumers and educate them quickly by first highlighting the main features of connected TV while simplifying the way connected TVs interact with other Internet-enabled CE devices. Also, the adoption of a universal format, transmission and even rate standards remains a priority in order to stabilize, in a competitive way, this market in the years to come. Manufacturers should, for their part, further enrich their main interface, optimize the personalization of features and improve the friendliness of the user experience with an ecumenical remote control combining complex data and various technologies. Hence, a recent study conducted by firms Altman Vilandrie & Co. and Research Now revealed that 41% of young adults (18-34 years old) prefer to use their smartphones, their digital tablet or their lap top, rather than their traditional remote control, to change channels and to fix the TV settings.²

¹ <http://www.appmarket.tv/news/830-us-consumer-households-will-own-5-10-web-enabled-ce-devices-by-2014.html>

² http://www.broadcastingcable.com/article/474218-Remotes_Lose_Favor_Among_Younger_Viewers.php



Lastly, Connected TV will not experience audience growth without the guarantee that the consumer will have a TV experience fundamentally different from the Web or the movie theatre. It should offer, above all, a simple, fast and user-friendly experience by capitalizing on Home Cinema technological assets (large format, increased image definition, 3D audio environment), which should include new features and interactive applications.

2. OVERVIEW OF THE LEADING DEVICES ON THE MARKET

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2.1 Connected TV sets, Set-top boxes and Media Center consoles' respective features and market share

At a time when more and more CE devices have built-in wireless capacities³, the connected TV market is structured around four major tech trends. These trends, along with access to Internet, VOD, metadata, RSS feeds and social networks, incorporate specific features:

- 1 – *Set-top boxes*, also called smart gateways, which transform an external signal into content displayed in XHTML, Java or Flash on a TV screen, and also act as a router and personal video recorder (PVR);
- 2 – *Smart TVs*, also called connected TVs, digital receivers directly integrating a connection to broadband Internet in order to give access to various Web services, such as Skype video conference calling, Apps and interactive content via a next-generation remote control, a smartphone or digital tablet;
- 3 – *Game consoles* including a Media Center software, which allow users to manage, via the Digital Living Network Alliance (DLNA) standard, personal multimedia files (video, photos, MP3) archived on a personal computer or a digital tablet from a television set;
- 4 – *Smart Blu-ray players*, which grant access to VOD services, Web videos in 1080p format and Web radio.

Nevertheless, some of these devices, which generally have an Ethernet port (for high-speed internet connection, Wi-Fi or not), HDMI (*High Definition Multimedia Interface*) and USB (*Universal Serial Bus*) outputs and a hard drive, are more popular than others.

Thus, according to a study released in April 2011 by Ericsson and Network Strategy Partners, **set-top box** video distribution services “should represent a dominant part in the network traffic in the years to come.”⁴ While digital cable dropped to 8% in 2010, a first since 2002 in this sector⁵, TiVO is having a hard time keeping up with its competitors, such as Roku, Boxee and Apple. The sales of the one who reigned in the set-top boxes market for the last ten years have been stagnant for the last few years. Roku, Boxee and Apple even had to undercut their retail prices in order to stay at the top of the market.⁷

“In December 2011, hardware maker Amino announced the sale of 4 million set-top boxes. Its first range of products was launched in 2002, and the Amino device is currently available in over 85 countries. Amino products have been sold to 800 partners worldwide.”

EXCERPT FROM AMINO FREEDOM CENTER'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

³ According to IBM, a billion Wi-Fi enabled gadgets will be used worldwide by 2015 (<http://www.readwriteweb.com/enterprise/2010/06/ibm-a-world-with-1-trillion-co.php>)

⁴ <http://www.blog-ericssonfrance.com/2011/04/services-video-over-the-top-ericsson-realise-une-etude-pour-evaluer-de-nouveaux-business-models/>

⁵ <http://www.myce.com/news/cable-set-top-box-sales-slide-8-in-2010-33633/>

⁷ <http://www.myce.com/news/roku-and-boxee-prepare-to-deal-with-apple-other-rivals-33919/>



South Korea is largely dominating the **Smart TV** market with Samsung and LG Electronics, and worldwide sales are forecasted to reach over 10 million units in 2012 alone, which would represent more than 33% of the international market.⁷ Today, all the leading TV manufacturers (including Panasonic, Sharp, Sony, Toshiba and Vizio) have developed their own range of connected televisions.

“The VierraConnect platform that Panasonic launched in 2012 has new connected features, a t-commerce application that enables consumers to purchase other Panasonic products along with an integrated Social TV application.”

EXCERPT FROM **PANASONIC VIERACONNECT'S** FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

As for **connected game consoles**, the International Data Corporation (IDC) deems that it is an undeniably lucrative market and anticipates 7 billion US dollars in earnings by 2012.⁸

Not even three years ago, connected game console sales were generating revenues of 2 billion US dollars.⁹ The firm M2 Research estimates that, in the United States alone, there are 45 million videogame console users.¹⁰ In 2012, 78% of Sony PlayStation 3 consoles were connected to the Internet, followed by Microsoft's Xbox 360 at 73% and Nintendo Wii at 54%.¹¹

⁷ <http://www.advancedtechnologykorea.com/?p=4864>

⁸ <http://www.advancedtechnologykorea.com/?p=4864>

⁹ <http://www.iesherpa.com/?p=38>

¹⁰ <http://archive.constantcontact.com/fs036/1102527936265/archive/1103141753057.html>

¹¹ <http://tdgresearch.com/blogs/press-releases/archive/2010/04/06/sony-ps3-most-connected-game-console.aspx>

According to the firm ABI Research, **Blu-ray connected player** sales are expected to grow by 40% by 2015. This increase can be explained by the end of format wars, declining prices, constant household penetration rates for HDTVs and the added-value online services available to players with an Internet connection.

Lastly, it is worth noting that ABI Research expects the number of Smart TVs and connected Blu-ray players shipped into consumer markets to increase at a compound annual growth rate of 21% through 2016, for a total of 3 billion units on the market worldwide within the next five years, ahead of connected videogame consoles and Set-top boxes.¹²

¹² <http://www.appmarket.tv/news/1166--report-three-billion-connected-tvs-and-blu-ray-players-shipped-by-2016-.html>



2.2 Leading Connected TV sets

2.2.1 SAMSUNG SMART TV



Samsung's Smart TV is the current Connected TV leader. It offers the most extensive collection of TV Apps, which is available in their online boutique as part of the global multi-device interface Smart Hub. Smart Hub includes Samsung Apps, the multi-device search engine SearchAll; YourVideo, which serves up recommendations based on personal preferences; WebBrowser, Web navigation based on face and voice recognition; and Social TV, which allows the user to chat with friends and family in real time while watching the same content on TV.

Smart TV also has a picture, video and music file management tool that can be used from a computer or digital tablet. Users can browse through content from a Samsung Galaxy Tab tablet or an Android Samsung smartphone.

Samsung has also entered into partnership with Comcast and Time Warner in order to offer more than 19 000 movies and television shows, available both on Smart TV and Galaxy Tab. PlayJam, ABC, NBC, FOX, TF1, Netflix, Hulu, VUDU, Epix, YouTube, ESPN, Pandora, Facebook and Twitter are also Smart TV's content partners.

In order to encourage the production of TV Apps, Samsung launched contests in the United States and Europe, challenging 2 000 independent developers to submit Apps in beta stage.

Winners were awarded 500 000 Euros in cash and services, and their applications are now part of the Samsung Apps boutique.

2.2.2 SONY BRAVIA WITH GOOGLE AND QRIOCITY

Through partnerships with Intel, Logitech and Sony, Google launched Google TV. As for Sony, its Bravia smart TV product line, connected Blu-ray players, PS3 connected consoles and VAIO laptops have all been set with the Google TV software since 2010, making them true streaming entertainment centers.

Google TV, an interface integrating Google's Android operating system and the Web browser Chrome, is geared toward researching the best VOD video content from Netflix, Web sites or TV. A keyboard and a mouse are used to navigate through Google TV's features and identify localized applications in the Android Market.

Although unable to get along with the big American networks (ABC, CBS, NBC, FOX and Viacom always block the signal), Google can count on the support of its affiliate Youtube along with that of other content providers, such as Amazon Instant Video, Napster, Netflix, Epix, Pandora, Twitter, Turner Broadcasting (TBS, TNT, CNN and Cartoon Network), NBC and its real time application CNBC Real-Time, HBO and information groups (i.e. the New York Times and USA Today). Google TV also has 35 other partners, including Sony Pictures, Dailymotion, Slacker, Picasa, Yahoo!, Wired, Demand 5, LOVEFiLM, Hulu Plus and Blip.tv, among others.

In addition to Google TV, Sony has introduced an on-demand music service Qriocity (6 million songs) for their range of connected TVs. Qriocity gives access to its partners' television series and feature films (NBC Universal Television Distribution, Paramount Pictures, Sony Pictures Home Entertainment, Walt Disney Studios, 20th Century Fox Home Entertainment and Warner Bros. Digital Distribution). Qriocity VOD

is a video streaming service (no downloading). It is Sony's response to Apple's iTunes and to other musical streaming services like Deezer and Spotify.

These services are available on all TV sets and Home Cinema systems of Sony's 2011 line-up. The Media Remote application enables the user to control the devices using a mobile or a tablet (iOS or Android) and activate the TrackID feature to identify the music from a film. Sony's Connected TVs also include the new video X-Reality Picture Engine, the Skype feature and the Web browser Opera.

In January 2010, Qriocity was launched in Japan, and it is already available in the United States, France, Germany, Italy, Spain and the United Kingdom.

2.2.3 LG NETCAST



Netcast is a streaming on-demand entertainment interface embedded in all LG devices—TV sets, Blu-ray players, smartphones and, since February 2011, the Optimus Pad. The SmartShare feature simplifies the process of sharing content from one LG device to another.

Despite having a small number of content partners—Netflix, Hulu, Epix, VUDU, Orange, Roxio CinemaNow, Yahoo! TV, Pandora, Google Maps, YouTube, Twitter, Facebook, Brightcove, the Viewster, BBC iPlayer, vTuner, Picasa, Accedo and AceTrax TV Apps—LG sets itself apart from competitors with two key assets. In fact, onlookers have recognized the virtues of its HDX transmission technology, which allows the viewer to stream content in Full HD 1080p, along with those of Magic Motion Remote, a gyroscopic gesture-sensitive remote control.

Also, the open-source software Plex, a multi-monitor management solution (TV, smartphone, digital tablet), enables research, Web browsing, online shopping and the syncing of user preferences from one platform to another with the “remote control” application for smartphones available in iOS or Android.

Lastly, LG developed its own LG App Store, which gives access to several hundreds of TV applications. LG's connected TV is available in the United Kingdom, Asia and the United States, whereas only a few widgets (YouTube, Picasa and MLB.TV) are offered in Canada.

“In January 2012, LG revealed at the CES its new Netcast user interface, which was updated with over 1 200 apps and a range of premium content services, such as an integrated search function to allow easier and quicker access to content, and the ability to use popular keywords to search through LG's expansive Smart-TV ecosystem. In addition to basic communication functions, social networking services (SNS) on LG's Smart TV now permit users to 'share' and 'like' what they're watching.”

EXCERPT FROM LG NETCAST'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

2.3 Leading Set-top boxes

2.3.1 APPLE TV



Apple TV enables viewers to stream video files on their TV sets through an Internet connection. It can also be used to look at pictures, listen to music and use certain services from Internet providers and local channels.

Launched in 2007, Apple TV can be controlled by any infrared remote control or the Apple Remote. The device's initial version was composed of either a 40 or 160 GB hard drive. The hard drive was left out in the second version in favor of an 8GB Flash storage to cache streamed content and facilitate the transmission of data in real time.

While it gives access to the iTunes Store (7 000 movies, that is, 3 400 in HD), Flickr, Mobileme/Mac, YouTube and Netflix, Apple TV does not give viewers access to cable content or that of over-the-air broadcasting channels (only FOX and ABC allow viewers to watch their content—except for first-run movies—on Apple TV, whereas CBS and NBC still refuse to

sign agreements with Apple), and it is not equipped with a personal video recorder (PVR).

The first version of Apple TV quickly capped (at that time, sales were forecasted to reach 6.6 million units in one year), as studies showed that consumers preferred ad-supported free content over ad-free paid content. In December 2010, Apple confirmed the sale of 1.1 million units, that is, 250 000 second-generation units.

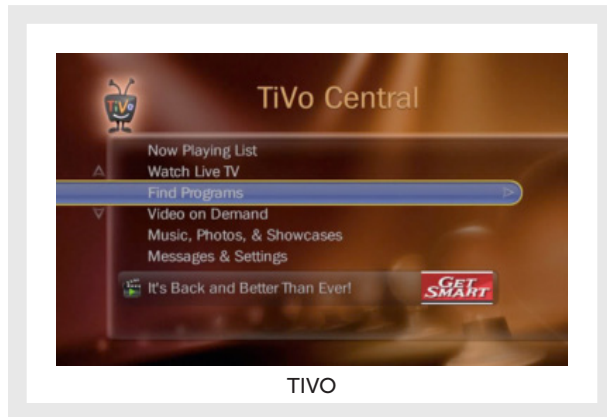
Apple TV retails at \$119 US.

“In March 2012, Apple released the new specs of its Apple TV upgrade: brand-new A5 processor and new software design, capable of delivering 1080p content. It also still ships with the same slender silver remote, complete with all the same buttons: Pause, play, menu, four directional keys and a select button. You can also control the device using the Apple Remote app.

The new Apple TV set-top box also features Netflix, Vimeo, live sports, YouTube and Flickr as well as access to more than 15 000 movies and more than 90 000 TV episodes.”

EXCERPT FROM **APPLE TV'S** FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

2.3.2 TIVO



After having developed the very first personal video recorder (PVR), the company TiVo launched the world's first ever smart digital video recorder (DVR TiVo Premiere). This device allows the consumer to access and share 100 000 movies and TV shows in SD, HD and 3D on VOD thanks to partnerships with Netflix, Amazon, Hulu Plus and Blockbuster. Furthermore, millions of songs and video clips are available pursuant to agreements with YouTube, Pandora, Live365 and Rhapsody. Users have access to Twitter and eBay apps, and they can also export data from their television set and share millions of pictures using Picasa and Photobucket apps. They can also share personal videos saved on the hard drive of a personal computer thanks to the TiVo Desktop software.

TiVo users benefit from exclusive features allowing them to avoid commercials with 30-second skips, save two shows simultaneously or receive alerts when a new online content matches their interests, such as favorite actors, genres on their Wish-List (tag matches).

In March 2011, TiVo launched Virgin Media TV powered by TiVo, a set-up box with a 1 TB hard drive (100 hours of HD content or 500 hours of SD content) that can record content and applications, and has a high-speed modem and three TV tuners with different features. The 20 MG modem

functions independently of the household Internet connection, and thus does not reduce broadband on the client's regular account.

TiVo partnered with cable operators, broadcasters and satellite service providers, and serves the media industry by providing interactive advertising and viewer search solutions while providing an open interface integrating developers' applications.

TiVo's connected PVR retails between \$85 US and \$275 US.

“In November 2011, TiVo initiated a major system upgrade for its set-top boxes powered by Virgin Media. New features include better integration for BBC iPlayer, catch-up content soon to be accessible through the Electronic Program Guide, Catch Up & On Demand menus and TiVo Search & Browse.”

EXCERPT FROM **TIVO VIRGIN MEDIA TV'S** FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

2.3.3 BOXEE BOX

Initially marketed as a downloadable software interface, the Boxee is now also available, since January 2010, as a connected set-top box. Manufactured by D-Link, the Boxee Box plays videos in HD 1080p format, connects to the household network to relay all multimedia content to PCs and Macs, is Flash 10.1 compatible and is equipped with a Wi-Fi port.

It is controlled remotely by the Boxee Remote, back of which also acts as a keyboard, or by a mobile application for iPhone and Android. The Boxee Box was the first set-top box to act as social media center that allows viewers to comment, vote and recommend content to their friends simultaneously while viewing content and selecting available applications in the AppBox.

The Boxee Box (200 000 units have been sold as of April 2012), which is available in 33 countries, such as the United States and Europe, will come to Asia and the Middle East in 2012.¹³

The Boxee Box retails at \$199 US.

“In January 2012, Boxee began shipping its \$49.99 Live TV tuner for its Boxee Box connected-TV platform. Main features include Social Channel Listings, Sharing on Facebook, Twitter or Tumblr using a Live TV Timeline App, Edit Channels and All-In-One Interface. The Boxee Live TV does not currently have DVR functionality.”

EXCERPT FROM BOXEE'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

2.4 Leading Media Center consoles

2.4.1 NINTENDO WII



With 86 million units sold in 2010, Nintendo Wii is taking the connected gaming industry by storm, holding 45.3% of market share.

Capitalizing on the connected games craze, however late, following the success of the Xbox and PlayStation, the Wii gives access to various customizable online services called Wii Channels. Users can send messages to members on their contact list, share and modify pictures, obtain information on current events (from the Associated Press agency) or the weather. Users can also buy or download games, cast votes in polls, and also navigate the Web with the Opera browser or have teleconferences with the WiiSpeak microphone.

Since 2010, users can finally buy and stream movies or television series from Netflix and the Wii Video Channel via the Wii console. This new service, which is only available in Japan, features VOD content from

¹³ <http://www.electronista.com/articles/10/12/28/expects.to.ship.100000.units.in.2011/>

Warner, Disney, J Soccer League, THK and TV Asahi. However, the Wii does not play DVDs or CDs.

The Wii U (Wii 2nd generation) will be launched in 2012 at the reduced price of \$170 US.¹⁴

2.4.2 MICROSOFT XBOX 360, XBOX LIVE AND WINDOWS MEDIA CENTER



MICROSOFT XBOX 360, XBOX LIVE ET WINDOWS MEDIA CENTER

The Xbox, a videogame console on the market since 2005, is the joint effort of IBM, ATI, Samsung and SiS. The Live Anywhere service, designed to link the console to Windows Mobile smartphones and computers running Windows Vista, brings the Xbox Live networking service to devices such as Xbox 360, among others. This service is a gateway to Xbox Live that allows viewers to sync their contact list, receive messages and invitations on any of the products listed above, and this, at all times.

The console plays multimedia files (pictures, music, video) on the television set from a computer running the Windows Media Center platform. These files could be stored on a CD, DVD, USB keys or some USB hard drives, MP3 players or any other portable external devices. This multi-tasking

operating system allows the user to, for example, play music while playing a game or using other applications in the console interface.

The Xbox 360 S features a 250 GB hard drive, Wi-Fi connection, USB, HDMI and Kinect ports, an automatic motion detection system along with a DVD player that can read games and movies. Furthermore, users can navigate through the Xbox 360 features thanks to Kinect technology.

Consumers can play audio and video content on the Xbox 360 via the Zune online boutique, connect to Facebook and Twitter accounts or even view the content of the Web portal MSNBC.com. Paramount Pictures, CBS, TBS, MTV Networks, UFC, NBC, Warner Bros, Lionsgate, Buena Vista (Disney), MGM, Miramax, New Line, Canal+ and Weinstein Company are all Xbox's content partners as are the numerous channels that show television series and rebroadcast sporting events and competitions.

Lastly, Microsoft invited independent developers and emerging professionals of the Xbox Live community to get a "downscaled" development kit (XNA) in order to develop casual games and apps, which will be soon available through the Xbox Live Marketplace.

Over 53 Million Xbox 360 250GB Kinect Bundle units were sold in 2010.¹⁵

The console retails at \$399 US.

"The new, improved Xbox UI main menu has video-centric features, like Kinect-enabled voice search and Bing-powered cross platform video search. Later this month, a new round of services, including Crackle, Vudu, YouTube and UFC will be added along with apps allowing access to some cable TV content for subscribers of Verizon FiOS. Microsoft also launched HBO Go and MLB.TV in March 2012."

EXCERPT FROM MICROSOFT XBOX LIVE'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

¹⁴ <http://www.foxnews.com/scitech/2011/04/26/nintendo-wii-game-consoles-reinvent/>

¹⁵ <http://www.vgchartz.com/>

2.4.3 SONY PLAYSTATION 3



SONY PLAYSTATION 3

The PlayStation 3 (PS3) is a videogame console on the market since 2006. Considered to be a genuine DLNA certified connected entertainment center, the videogame console features a 3D Blu-ray player, HDMI and Wi-Fi connection, four USB ports, a hard drive of 120 to 320 GB and an Access NetFront Web browser. It also allows consumers to view different types of multimedia files on their television set.

The PS3, equipped with the online service PlayStation Network, enables free network gaming, allows the user to download games via the PlayStation Store boutique, view demos and previews, and it also gives access to various services. PS3 offers a multi-tasking operating system, which includes Life with PlayStation, Web-based content provided by Google News and The Weather Channel, which can be browsed by time and location.

Only available in Europe, Play TV is a tuner/PVR and PS3's external device.

Users can navigate through PS3's features with PlayStation Move, Sony's answer to the Wiimote and the Kinect system.

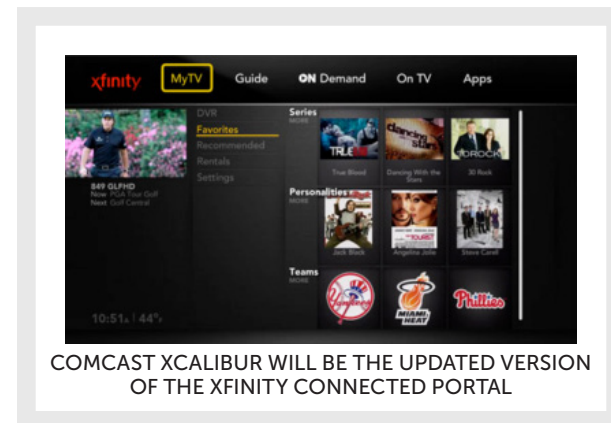
As of May 2011, 53 million units have been sold, that is, 50.4 million in 2010.¹⁶

¹⁶ http://www.sony.net/SonyInfo/IR/financial/fr/10q3_sony.pdf

The PS3 retails at \$399 US.

2.5 Leading satellite service providers' and cable companies' connected servers

2.5.1 COMCAST XCALIBUR



COMCAST XCALIBUR WILL BE THE UPDATED VERSION OF THE XFINITY CONNECTED PORTAL

Comcast, one of the biggest cable companies on the American market, has been working toward the launch of Xcalibur, an IPTV gateway that exports tens of thousands of (partial) VOD Web content to a connected TV and a premium offering. Other features include cloud-based storage, TV applications, specialized information portals, social networks and interactive services. The system is tailored to multi-screen types, and is a natural extension of TV Everywhere.

A beta version is currently in trials in Georgia.¹⁷

¹⁷ http://www.iptv-news.com/iptv_news/june_2011/comcast_hones_xcalibur_to_deliver_ip-based_video_services

¹⁸ <http://investor.directv.com/releasedetail.cfm?ReleaseID=578966>

CHAPTER 2

OVERVIEW OF THE LEADING DEVICES ON THE MARKET

2.5.2 DIRECTV HOME MEDIA CENTER

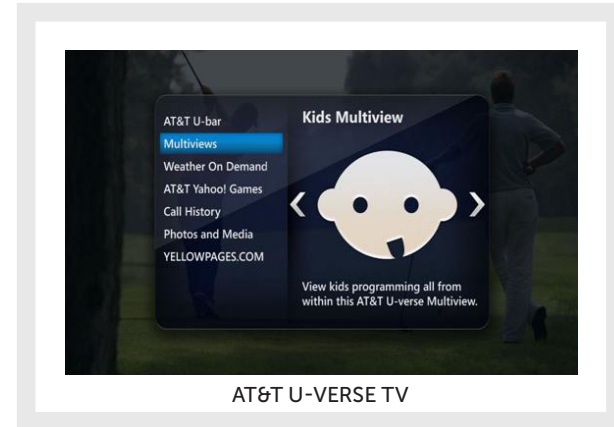


DIRECTV HOME MEDIA CENTER

In May 2011, the satellite service provider DIRECTV launched a field test on its new “receiver-less” home media center in 150 American households. This technology delivers a TV service, using an interface controlled by a main server, to several connected devices (Blu-ray players, connected terminals and televisions), without the user having to buy set-top boxes for each of them.

DIRECTV Home Media Center has been available throughout the United States since fall 2011.¹⁸

2.5.3 AT&T U-VERSE TV



AT&T U-VERSE TV

Deployed in 2006, AT&T's triple play U-Verse service added, in August 2011, the Multiview application. The application enables viewers to choose the channels they want to watch, select different camera angles and track up to four channels at once as part of its Sports Multiview, Kids Multiview, News Multiview and My Multiview packages.

Available in 29 million American households, AT&T's U-Verse TV offers 170 HD channels (many of which are international, in a language other than English) along with 250 GB per month of DVR cloud storage space (\$10 US for each additional 50GB). The interactive applications Weather On Demand, U-bar and Media Share, parental control and content choice features are also offered.

CHAPTER 2

OVERVIEW OF THE LEADING DEVICES ON THE MARKET

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“U-Verse TV’s November 2011 upgrade includes social features, such as BuddyTV Guide, a mobile application that allows smartphones to detect any program being aired. The application also gives users access to a personalized program guide, reminders and comments on social networks in real time. Other new features include Miso, TV Foundry and Wayin.”

EXCERPT FROM **AT&T U-VERSE TV**’S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

“Joe Clayton, CEO of Dish Network, confirmed in December 2011 that his company is exploring the possibility of offering Over-the-top services on the heels of a similar declaration expressed by the CEO of Verizon. Dish Network was successful this fall with the launch of Blockbuster Movie Pass, which offers movie rentals by mail and Internet for a \$10 monthly fee.”

EXCERPT FROM **DISH VIP SLINGLOADED DVR**’S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

2.5.4 DISH NETWORK WITH GOOGLE TV



Dish Network is focusing on its own enhanced PVR that allows the consumer to play archived content simultaneously on any connected device in the world (thanks to the Sling Media technology), live broadcasts or enjoy TV Everywhere in 1080p HD VOD. It also gives users access to the Google TV search engine (YouTube, namely) along with a mobile application for smartphones and digital tablets using the Android operating system.

2.5.5 CABLEVISION IO TV



Cablevision, the eight biggest American cable company, offers its clients in the New York region and four states in the West a PVR with many interactive features. For example, the “C” button on the iO Remote remote control gives access to the search engine by show, actor or genre. Users can also create their own customized television schedule (iO Quick Views) or even consult information on local news, sports or the weather (iO Shortcuts), which is incorporated into an on-screen overlay, without having to change the channel.



When a blue bar scrolls across the screen, the consumer can activate the Optimum Select button of its iO Remote and receive product samples and coupons. Consumers also have the option of carrying out t-Commerce purchases.

Lastly, clients of iO TV can have access to Turner Broadcasting channels with TV Anywhere—TBS, TNT, CNN, Cartoon Network, Adult Swim and truTV—along with Web broadcasts from CNN and HLN. They can also view content saved on their computer thanks to the Optimum Link option.

“In November 2011, Cablevision iO TV became the first platform to offer AmberWatch TV, one of the first interactive VOD channels dedicated to parents and caregivers with a focus on children’s safety. The channel has a vast library of VOD content and advanced features designed to increase children’s safety.”

EXCERPT FROM **CABLEVISION IO TV**’S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

3. LEADING INTERFACES, APPLICATIONS AND CONTENT BY PLATFORMS & TERRITORY

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The user interface, or the portal application, is one of Connected TV's major issues; between 20 000 and 100 000 researchers worldwide are harnessing their efforts testing interfaces, that is, 50 000 in California alone.¹⁹

Who, out of the manufacturers, content aggregators, Internet service providers (ISP) or cable companies, will successfully impose their interface and/or operating system (e.g. Google TV or Yahoo! TV) and thus favorably position themselves in this segment of the industry, mainly as regards advertising revenues?

Here is precisely why large media groups like NBC/Universal or Time Warner are still reluctant to export their content into interfaces they do not control. They would not benefit from doing so financially, whereas content on their own Web sites generates substantial exclusive publicity revenues.

The other issue related to the user interface can be divided into two philosophies and niche strategies related to its usage. **Open interfaces** allow consumers to customize their browsing environment, share TV applications and extend their searches to the Web. As for **closed environment** or **proprietary interfaces**, they give access to content via TV applications granted by virtue of agreements settled with content providers. This last type of interface is more so for beginners who would want to limit their linear content consumption and interactive applications to the offerings of known brands.

There are generally two types of user interfaces:

- A –** *Multi-purpose interfaces*, which manage all the Web, picture files, music and video features of the user environment of a TV or

set-top box, as would a home page (desktop);

- B –** *Secondary interfaces* like those provided by content and application aggregators, e.g. Google TV, Yahoo! TV, Netflix, Hulu, Blinkx TV, Cloud TV, Plex global interface.

Meanwhile, over-the-air broadcasters who do not want to share their long-term relationship with the viewer with connected TV manufacturers and content aggregators, have struck back with the implementation of the Hybrid Broadcast Broadband TV (HbbTV) standard in Europe. This measure was established to further control the interactive hybrid offerings (from both broadcast and broadband sources) around linear content, without interference from intermediaries working in this new interactive environment.

“Following the example of Germany, France, Holland and Austria, Spain adopted in November 2011 the HbbTV standard for connected TV. The Minister of Industry approved a formal text backed by the entire electronic industry and TV broadcasters, that is, 54 businesses. Mediaset, owner of Tele 5 and Cuatro, TVE and Telefonica are developing HbbTV services, while RTVE plans to launch a specific service that would cover the Olympic Games.”

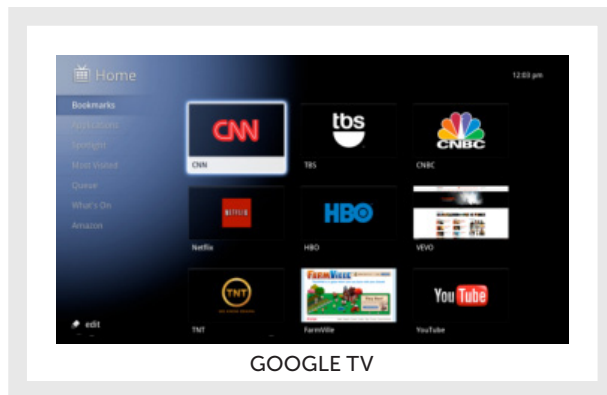
EXCERPT FROM HBBTV'S PROFILE ON SMARTMEDIAPLATFORMS.COM

¹⁹ http://www.culture.gouv.fr/mcc/content/download/10775/71936/file/Rapport%20final-Mission%20Dominique%20Richard_27%20avril%202011%20pdf%202.pdf



3.1 UNITED STATES

3.1.1 GOOGLE TV



Launched in fall 2010, Google TV is a software combining the features of the Android operating system and that of Google's own browser Chrome. It enables viewers to search for content on Web services, such as Google's Youtube, traditional VOD services or even personal content files, and watch it on a connected TV. Users can also add applications from Android compatible services. This technology is also available through set-top boxes.

Unlike most other connected TV services, Google TV gives complete access to the Web, not only to a few applications from a handful of popular Web sites. Google TV gives the user access to millions of videos, games, pictures and social networks created for the Web.

Google encourages developers to create and share their own applications via the Android Market and the customized homepage giving quick access to their channels, applications and favorite Web sites. The user can also use various features simultaneously. They can, for example, check their applications while watching a TV show.

Furthermore, Android smartphones can serve as a remote control, enabling the user to search, watch, comment and share content along with consult an interactive programming guide.

Google TV's start-up was well below the expectations of its providers Sony and Logitech (initial sales of 5 million units, 72% below the forecasts of 18 million units sold—Logitech stopped its Google TV-driven STB production in 2012), which have both added the Platform to their recent range of TV sets and set-top boxes. Furthermore, most American movie studios and television networks have not yet agreed to offer their content on Google TV due to a lack of distribution infrastructure and the complexity of the software.

3.1.2 YAHOO! CONNECTED TV



One of connected TV's pioneers since 2009, Yahoo! has put in place a new paradigm by implementing interactive broadcasting that allows the viewer to vote live during the rebroadcast of a sporting event or a reality TV show.

Users can also carry out basic banking transactions and make purchases via their TV set without having to use their personal computer. ABC, CBS, the Home Shopping Network, Showtime, Ford, Microsoft and Mattel are the first partners to embark on this T-commerce initiative, a Yahoo! TV exclusive.

Yahoo! Connected TV also offers, like its competitors, access to the main social networks along with content and more than 140 TV applications via the Yahoo! Connected TV Store. It also provides various VOD services, including more than 75000 films and television series.

The platform was integrated, since 2011, into a set-top box made by D-Link, and the few 130 widgets developed for and by Yahoo! TV are available on some Samsung, Sony, Vizio, LG and Toshiba connected TV models in 135 countries.

More than 8 million connected TVs across 135 countries are currently using the Yahoo! Connected TV interface.

3.2 Canada

Considered to be a stakeholder in the domestic US market in film distribution, the English Canadian territory has the advantage of being able to broadcast American programming as it runs in the States in virtue of agreements with Canadian cable companies and also because it shares the same time zone as its American neighbour. As for Quebec, all French television broadcasters buy licenses for series, which will be on air, once translated, often one or two seasons late.

Some OTT services, like Netflix and Google TV, are offered to Canadians, but most of them (like Hulu) remain exclusive to American consumers.

As for connected TV sets, many American platforms are not available in Canada, or if they are, they only offer a handful of connected services due to territorial restrictions American content providers have negotiated with the manufacturers.

Therefore, this means that cable companies and telecoms—mainly Rogers NextBox, MTS Allstream Ultimate TV, Bell Aliant FibreOP TV, Sasktel Max TV and Colba.Net IPTV—are often the only ones to have connected service offerings for Canadians. These offerings are often limited to VOD, catch-up, games and the most popular social apps.

It is important to note that Canada, for few years now, has been one of the largest video game industries worldwide in terms of hours spent gaming online.

3.2.1 OPTIK TV



OPTIK TV

Telus has implemented a personal video recorder (PVR) for multi-screen TV systems that can be controlled and used at a distance on six household TVs.

Using a search engine, this recorder identifies live programming, saved content or metadata base results.

Optik TV also provides VOD content with previews, the modest interactive experience of a Karaoke game with more than 200 songs from Quebecer and international artists along with access to Facebook.

The platform is available on Microsoft Xbox 360 game consoles and digital converter boxes.

“In November 2011, Telus added 50 000 IPTV subscribers in the third quarter this year, to reach an overall total 453 000 clients—an increase of 70 % from 2010.”

EXCERPT FROM OPTIK TV'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

3.2.2 SHAW GATEWAY



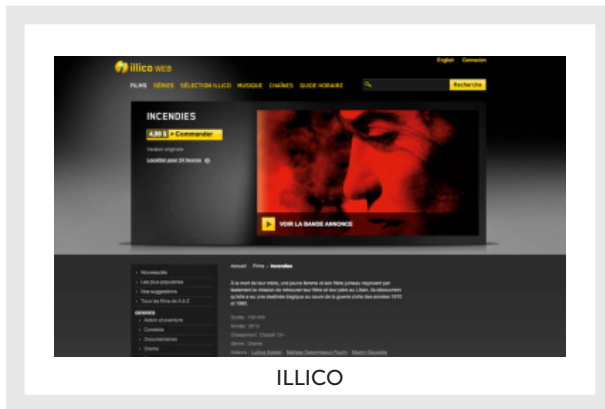
SHAW GATEWAY

The Shaw Gateway, built on ARRIS hardware, is a streaming personal video recorder (PVR) that can record six shows simultaneously and play three prerecorded shows at once.

The redesigned program guide allows the user to use filters and favorite genres. Shaw recently added new features, such as Web content, a PVR remote control using a smartphone or digital tablet, a global content search engine, which brings up results from live TV, video archives, VOD, premium offering and PC documents, along with home sharing.

Available for only \$598 US, the Shaw Gateway is currently only offered in Calgary, Vancouver and Edmonton. Shaw's other clients will be able to take advantage of this service by the end of 2012.

3.2.3 ILLICO



In Quebec, in 2010, Videotron adapted its illico VOD service to the Web and smartphones via illico Web and illico Mobile.

With their illico account, clients can watch 32 TV channels and thousands of hours of programming in English and in French, including exclusive Web series, music channels, shows and movies. Other features include remote programming of the personal video recorder (PVR) and an interactive program grid, and this, from one screen to another.

In 2012, Videotron launched illico New Generation, most notably adding a customizable program guide and interactive widgets to its digital French VOD offering, the largest (32 000 titles) in North America.

3.2.4 BELL FIBE TV



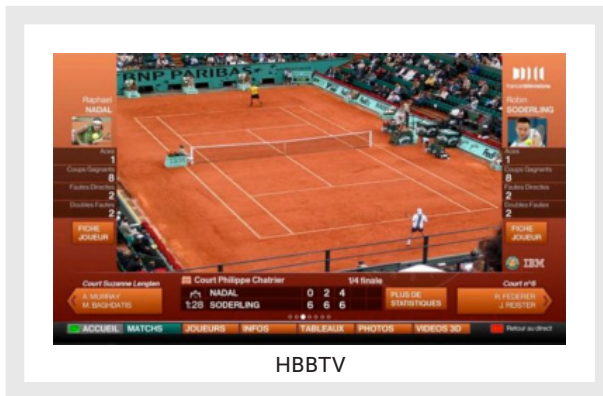
Bell launched its IPTV Bell Fibe service in Montreal and Toronto. This PVR also offers a selection of VOD titles along with access to Facebook, Twitter, MétéoMédia interactif, The Weather Network Interactive and Galaxie on a connected television set.

In December 2011, Bell also added new features, such as the option to sift through live TV by genre to find favorite television shows or find new ones in the following categories: Entertainment, movies, sports, information, lifestyle and family.

3.3 Europe

The main French Internet service providers (ISP) have released on the market their own set-top box by virtue of various agreements with content providers throughout France. However, only a handful of them offer actual connected features, mainly Freebox Revolution (Free), Neufbox Evolution (SFR) and Bbox de Bouygues Telecom. Others, like Orange's Livebox, Dartybox, Numericable's M@TV and Alicebox, have little to no broadband services, but provide real-time information widgets on the weather or traffic.

3.3.1 HBBTV



The HbbTV Consortium, a pan-European initiative, which mainly consists of the European Broadcasting Union (EBU), France Télévisions, Institut für Rundfunktechnik GmbH, Philips Electronics, Samsung, Sony and TF1, has elaborated the Hybrid Broadcast Broadband TV (HbbTV) standard, based on existing Web technologies standards (HTML 5, JavaScript, CSS and Document Object Model (DOM) during the rebroadcasting of events, namely).

The consortium aims to, on one hand, accelerate the development of applications and interfaces made up of added-value and contextual content, hyperlinks and participatory tools. On the other hand, it hopes to overcome interoperability problems and create an alternative to content providers, such as Google TV and Yahoo! Connected TV, and proprietary technologies put forward by all the connected TV manufacturers.

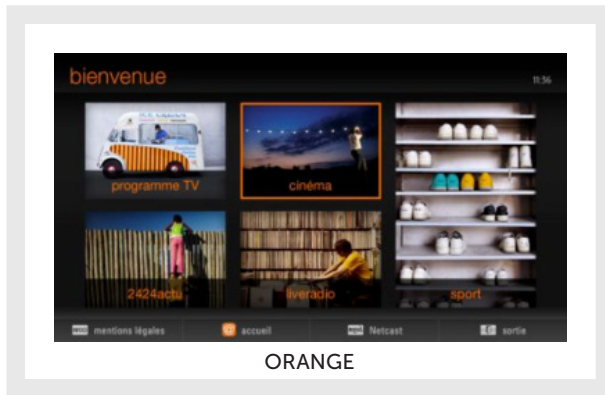
Simply put, HbbTV aims to harmonise the broadcast delivery of content—mainly public channels—with added-value Web content through connected televisions.

On the French market since May 2011, the HbbTV standard mainly focuses on defining language settings for menus and connected TV applications, combining non-linear audiovisual content to applications, establishing fixed image formats and minimizing interoperability issues, etc.

This standard thus allows the viewer to discover, with the simply flick of the remote, the interactive offering around a linear content (e.g. live statistics, 3D video, the tournament scoreboard, daily news or even the detailed fact sheet of a player), thus preventing the viewer from getting lost in different VOD, direct and catch-up TV applications. These interactive metadata come from both broadcast and broadband sources.

The consortium entered into partnership agreements with around fifty media and technology groups and telecom operators. Among them are: Canal+, Alcatel Lucent, Cisco, Dolby, Fujitsu, LG, Electronics, NRJ 12, Philips, Sony, TDF, Teveo and TVC Catalonia. As for manufacturers, LG, Loewe, Toshiba, Philips and Vestel have shown interest in the HbbTV standard, as have a few French channels, including France Télévisions and Arte.

3.3.2 ORANGE



Orange, France Télécom's entertainment segment, which doubles as an ISP, provides a news and original apps portal for connected TVs manufactured by LG France. This initiative aims to compete with M6 Replay or even TF1's offering, available respectively on Sony and Samsung connected televisions.

Orange mainly provides 2424actu (news aggregator of French media), exclusive magazines on upcoming movie releases and movies available on VOD, the radio and podcasts, and a sports channel featuring shows, live rebroadcasts and textual information. Access is granted to both subscribers and non-subscribers of Orange.

In March 2012, Orange launched "la nouvelle TV d'Orange," a next-generation subscription-TV service that allows Orange to upgrade its IPTV service with a state-of-the-art user experience, and it also prepares the infrastructure for the new challenges of over-the-top (OTT) video, multiple screens and unlimited content. "La nouvelle TV d'Orange" boasts a new user interface, which includes VOD, catch-up TV, content discovery and recommendations, EPG, PVR, self-developed applications and more.

3.3.3 FRANCE TÉLÉVISIONS



In September 2011, France Télévisions, the first French audiovisual group, implemented a hybrid broadcast/broadband portal, and it will provide its news magazines as an application in accordance with the HbbTV standard. Following the success of its first broadcasting tests during Roland Garros' last tournament, its permanent Digital Terrestrial Television (DTT) will constantly be updated throughout the day by the writers of France Télévisions, and it will provide international, national and regional information, latest sports news, access to the latest weather report in video format and a program guide. Sharing functionalities on social networks will soon be available.

It will also be available on television sets without Internet connection.

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“In November 2011, France Télévisions unveiled its new online video development called Francetv info. Francetv info is a platform that mixes both social networks’ ways of presenting videos or news along with national and international real-time news delivery. The news feed is delivered on the service by a dedicated team that collects and adapts news coming from all the channels’ information units (France 2, 3, 4, 5, Ö). This real-time daily news service will be offered from 6:00 am to midnight, on all platforms and devices. First available on the Web (francetv.fr.info) and as an iPhone app, the service will progressively be developed on tablets, OS mobile phones, mobile Web and connected TV sets.”

EXCERPT FROM FRANCE TÉLÉVISIONS’ FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

3.3.4 MYSKREEN



MYSKREEN

Described as the French version of Hulu, myScreen is a portal dedicated to the promotion of the French legal audiovisual offering, available online and organized by content, price and provider (among which are CanalPlay, M6 Replay, MyTF1VOD, Vodeo and Imineo). This represents more than 1 300 000 movies and television shows, that is, 40 000 in VOD and 15 000

integrated videos, in partnership with 55 VOD platforms, 26 catch-up platforms and 280 professional video sources.²⁰

The platform identifies all professional quality Web content (movies, TV shows, Web series, documentaries, concerts, archives, etc) on a multitude of VOD, live broadcasting and Catch-up TV services, in the form of an upgraded television schedule grid, and redirects internautes toward selected services. It has been doing so since 2009.

In order to stop piracy, myScreen provides users with two alternatives: return to the content platform of the selected rate or launch the film directly in myScreen and stream using Flash, if the viewer entered into an agreement with the VOD distributor.

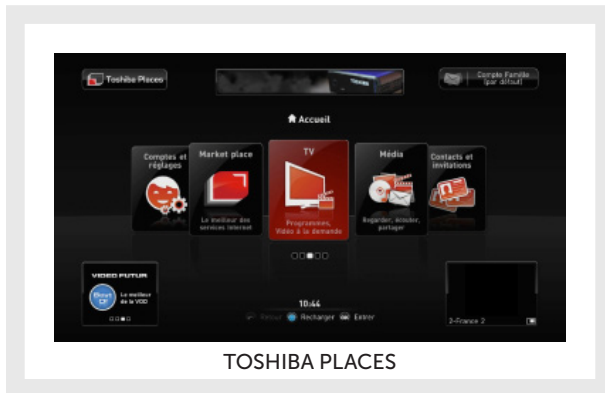
The portal is compatible with all operating systems, from any type of Internet-enabled TV set. It is estimated that myScreen attracts more than 80 000 visitors per month; more than 80% of its clientele hails from France, and less than 2% is from Canada.

“Launched in October 2011, myScreen’s Facebook application allows users to rent and buy 15 000 television shows on the social network while also allowing them to win free rentals by recommending movies to their Facebook friends.”

EXCERPT FROM MYSKREEN’S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

²⁰ <http://www.oezratty.net/wordpress/2011/assises-afdesi-sur-tv-connectes/>

3.3.5 TOSHIBA PLACES



TOSHIBA PLACES

Developed and destined for the French market, Toshiba Places is the Japanese manufacturer's portal geared toward connected devices, from the personal computer to the new Toshiba Folio digital tablet, set-top box terminals to Toshiba's range of connected HD televisions.

Using a Places account, this multimedia gateway allows the client to access and manage Web content, share pictures and personal videos from and with other Places subscribers. It also allows the user to purchase TV apps via the Toshiba Market Place.

Places' TNT HD tuner provides 18 channels of free TNT along with four HD channels (TF1 HD, France2 HD, ARTE HD and M6 HD), not to mention various added-value content services, such as Lespagesjaunes and ComFM (streamed radio). The portal, which does not have a Web browser, does not give access to Twitter, either.

Places, which favors streaming, has a memory of 4 MB. It enables viewers to rent a movie in 1080p via the VideoFutur VOD service, and one of PVR's features offers users the possibility to record shows from TNT HD on an external hard drive with a USB cable.

“In April 2011, Toshiba announced its plans to expand Toshiba Places during 2011 by extending the offering to further countries; building Toshiba Places into more device categories; and adding new Places— for example, content sharing via popular social networks and cloud storage. On TV, Toshiba Places is planned to evolve into a central hub that will merge broadcast, broadband and local networks to deliver a unified content-centric experience to its users. In the future, a new generation of applications will enable more interaction and shared experiences between the many consumer electronics devices offered by Toshiba.”

EXCERPT FROM **TOSHIBA PLACES'** FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

4. TODAY'S MOST POPULAR TRENDS

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4.1 TV Everywhere (TVE)



We hear more and more about the concept TV Everywhere (TVE), an ecosystem dedicated to multi-monitor compatibility facilitating content sharing between connected TVs, mobiles, digital tablets and multifunctional portable devices.

Cable companies are TVE pioneers. In the United States, Comcast put their Fancast Xfinity TV (50 000 titles) portal online in 2009, after having signed agreements with over 90 TV networks.

As for Verizon, the company established the FiOS TV service, a multifunctional package granting access to content from Turner Networks, HBO and Disney. HBO launched its HBO GO initiative, a portal offering 600 hours of premium content available for broadcasting in SD or HD. Viacom, which made multiplatform distribution its priority, is capitalizing on the Epix service (launched by Lionsgate, Paramount and MGM), which provides more films for streaming than its competitors.

In Europe, where companies like Sky Multiroom, Ziggo and Orange have been offering TVE since 2006—Orange does not restrict this option to only television shows and even called it Orange Content Everywhere—the American middleware giant Brightcove has developed a TV Everywhere package. It allows companies to create immersive, branded experiences, and comprises ongoing sharing, search and broadcasting features at various speeds and Web development tools.

In Scandinavia, Modern Times Group (MTG) launched, in March 2011, Viaplay, the first VOD service offering TVE in the Nordic countries and one of the biggest of its kind in Europe.

“Since September 2011, MTG Viasat has been using the interactive never.no Suite and the broadcasting Add-on Harris RTX to display Twitter and Facebook feeds on the screen. It also added a Facebook voting application for the live broadcasting of the UEFA Champions League playoffs.”

EXCERPT FROM MTG VIASAT'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

In May 2011, the firm Parks Associates estimated that 81% of North American cable company subscribers will have access to TVE this year, while 40% of subscribers in Western Europe and 12% in Eastern Europe can receive the multi-screen service.²¹

²¹ <http://www.parksassociates.com/blog/article/parks-pr2011-tveverywhere>



4.2 VOD streaming, from the Web to connected TV

Real-time entertainment bandwidth consumption has literally exploded in the past two years, so much so that it will make up close to 60% of Internet traffic during peak times by the end of 2011.²²

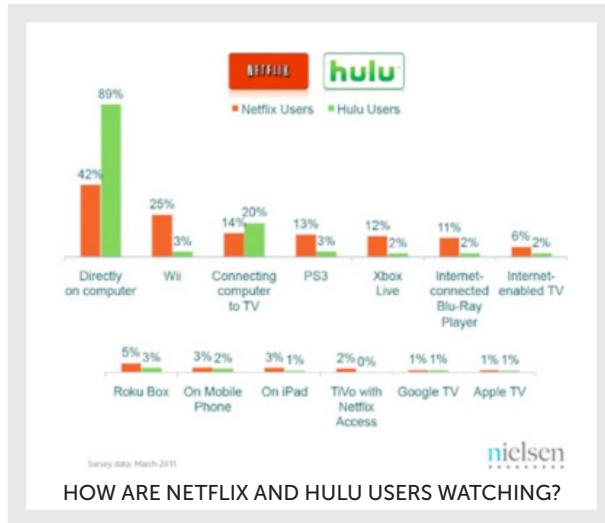
This VOD service revolutionized the consumption of audiovisual Web content. For the first time in North America, the traffic generated by a paid service (Netflix hogs 30% of active bandwidth in peak period in the United States and 13.5% in Canada) has supplanted that of free services, less than a year after its arrival into the country.²³ Even though its offering is limited to movies and TV series, Netflix has been integrated into most connected TV sets through the popular TV app, and, in some cases, with its own Netflix button (the famous red button) on remote controls.



Netflix, without a doubt, has contributed to this trend. Netflix, having extended its DVD-by-mail rental service to smartphones, game consoles and Blu-ray players, is deemed by many to be the precursor of TV Everywhere (TVE).

²² http://www.sandvine.com/news/pr_detail.asp?ID=312

²³ <http://www.marketnews.ca/LatestNewsHeadlines/FEATURE:GoingMobile-CanadianTelecomSummit2011.html>



Given the success of Netflix and its millions of subscribers, other more traditional content sales and rental services like Walmart-VUDU, Amazon Instant Video, Hulu (a joint venture established by NBC, FOX and ABC that has 1 million subscribers) and Boxee have adapted their internet portal to connected TVs.

Social networks, such as Facebook, have signed agreements with Hollywood studios Warner and Miramax to offer a social framework for content. At the same time, they are maximizing their exposure along with allowing content indexing and enabling consumers to rate their releases.

4.3 Online TV Apps store

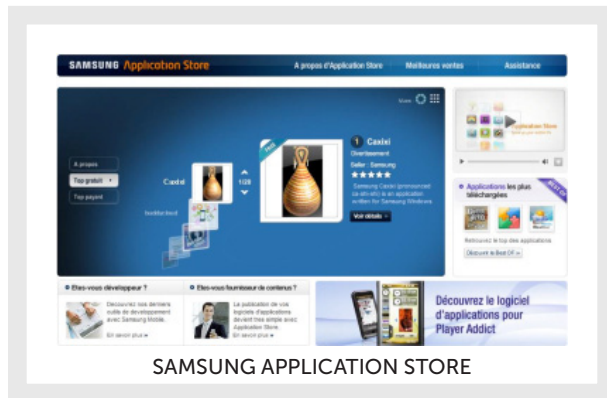
Apple's iTunes online boutique currently has some serious competition as content aggregators and manufacturers also provide portals to purchase various apps (movies, games, services) designed for their multi-screen platforms (TV, mobile, tablets) with the same operating system.

Google (Android Market) and Yahoo! (Yahoo!TV Widget Store) provide TV applications that are compatible with the various connected TV models of their partners. A few cable companies also offer TV apps in their own connected environment, such as DIRECTV App Store²⁴ (80 applications) or the Comcast App Store.²⁵

Microsoft, Apple's arch rival, has adapted its Zune software, initially offering music and games, to audiovisual content (at this time, only Xbox 360 owners can use it). As for Samsung, LG and Sony, they have created portals that showcase free or paid TV applications, among which are users' creations, in accordance with different revenue share models.

²⁴ <http://tvapps.directv.com>

²⁵ <http://youtu.be/fHfzyaa-ohc>



However, Samsung still remains the pioneering leader in the industry, with over 10 million downloads of its 1 000 applications currently available, including 259 free, in 120 countries.²⁶

According to South Korean giant Samsung, YouTube, Google Maps, AccuWeather, Vimeo and Texas Hold'Em were the most downloaded apps worldwide during spring 2011. Game-related applications account for 24% of downloaded TV applications. Trailing behind are educational applications at 23%, news applications at 20%, video applications at 14%, lifestyle applications at 12% and sports-related applications at 7%.²⁷

According to a study conducted by the firm In-Stat, 60% of connected households used a TV app, mainly Netflix and Youtube, at least once a week in 2011.²⁸

This segment of the industry has become so important that the Consumer Electronics Association (CEA) hosted the first TV Apps Developer University in Arlington Virginia last September.²⁹ According to the CEA, over 8 million devices with entertainment, communications, lifestyle and video game applications were shipped in 2011.

According to a July 2011 study conducted by Asymco, a market intelligence firm, users download more apps than music on iTunes. To illustrate this paradigm shift, let's just say that the 15 billion app threshold was reached in three years, whereas the 15 billion music threshold was passed in 6 years. The iTunes store currently has more than 300 000 available applications, including 100 000 for the iPad alone.³⁰

It is also important to note that LG Electronics, Philips and Sharp have agreed to work together to define common technological requirements for their TV applications based on open standards such as HTML5, CE-HTML and HbbTV. This initiative aims to simplify the way applications are developed and offered by increasing the productivity of the application ecosystem in the connected TV industry.³¹

“In November 2011, Sharp confirmed that it is targeting a market share of 14% for this year and 15% for next year in the liquid crystal display television (LCD TV) segment with the introduction of the biggest panel of Aquos 70-inch LCD TV and Aquos Net TV line-ups equipped with three dimensional display (3D).”

EXCERPT FROM SHARP AQUOS NET'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

²⁶ http://www.samsunghub.com/2011/05/23/samsung-tv-apps-store-surpasses-5-million-downloads/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+samsunghub+%28Samsung+Hub%29

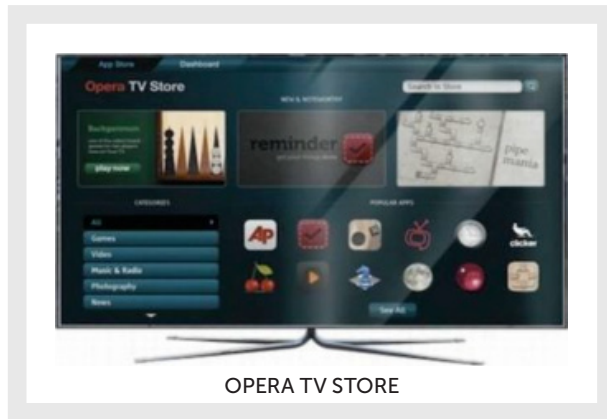
²⁷ Idem 3

²⁸ <http://www.appmarket.tv/news/1284-over-60-per-cent-of-connected-tv-households-use-tv-apps-at-least-once-per-week.html>

²⁹ <http://www.marketwatch.com/story/cea-to-host-first-ever-tv-apps-developer-university-2011-09-13>

³⁰ <http://www.asymco.com/2011/07/13/itunes-app-total-downloads-finally-overtook-song-downloads/>

³¹ <http://www.lgblog.co.uk/2011/09/lg-philips-and-sharp-join-hands-to-offer-multi-platform-smart-tv-apps/>



Lastly, Opera, known for its popular Web browser, launched the Opera TV Store, a portal for developers and producers of TV apps—previews, VOD, games, information, vodcast and podcast—in order to provide them with a range of HTML5 tools that are compatible with most TVs and other connected units.³²

“iCord HD+/ME by Humax is the first set-top box powered by Opera to have its own Web applications developed with the Opera Devices Software Development Tool Kit (SDK). It will be available in the Middle East following its launch in the Western world in November 2011.”

EXCERPT FROM HUMAX TV PORTAL'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

4.4 Downloading, streaming and clouding

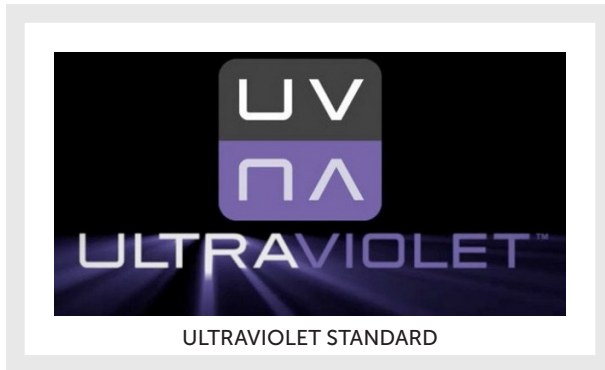
Memory space is, after access to on-demand content, one of the most crucial issues in the connected TV market. While some terminals, consoles and connected Blu-ray players have built-in hard drives and offer enviable storage capacity to encourage consumers to download and store favorite HD content, others rather promote streaming (quality often inferior to HD), which requires far less bandwidth.

An increasing number of fans have made clouding one of the most popular intermediary solutions. It is a virtual memory space on a microserver, which the consumer can “rent” according their needs. Services, such as Apple's iCloud (annual packages), Google Drive (Music, Docs—all free), Amazon Cloud Drive (5GB free, \$1 US per additional GB per year), Windows Live Skydrive and Dropbox (both available in freemium), Cloud TV (providing 2 500 international channels to 10 000 American households), woomi (available on half of the connected TVs worldwide as of this year) and BONG.TV (enabling users to record live shows on their private Web space BongSpace and then watch them on any connected screen), not only archive their subscribers' digital content files, but also their metadata and personal settings.

“Miniweb predicts Woomi to be on more than half of the world's connected TVs by 2012.”

EXCERPT FROM MINIWEB WOOMI'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

³² <http://www.opera.com/press/releases/2011/09/01/>



The Digital Entertainment Content Ecosystem (DECE), regrouping five to six Hollywood studios along with Canadian companies Cineplex Entertainment and Rogers Communications, aims to boost the cloud market by adopting the Ultraviolet standard, a secure system allowing users to stream and store audiovisual content on many connected devices via cloud storage.³⁴

As Ultraviolet is scheduled for release in the UK in 2012, the pan-European VOD provider Acetrax and the British retailer Tesco are now operating their own digital locker service. When a user buys a DVD or Blu-ray disc, they receive a code that allows them to download a digital version from a digital locker.

Consumer habits regarding downloading, streaming or cloud storage will ultimately be determined by the offering—unlimited paid package, free à la carte or a combination of both (freemium)—along with bandwidth usage costs in each territory.

These systems handle, among other things, automatic format conversion and metadata research on the Internet. They also categorize the offering of content partners by “channels”, some of which were designed by independent developers.

4.5 Multi-screen management centers

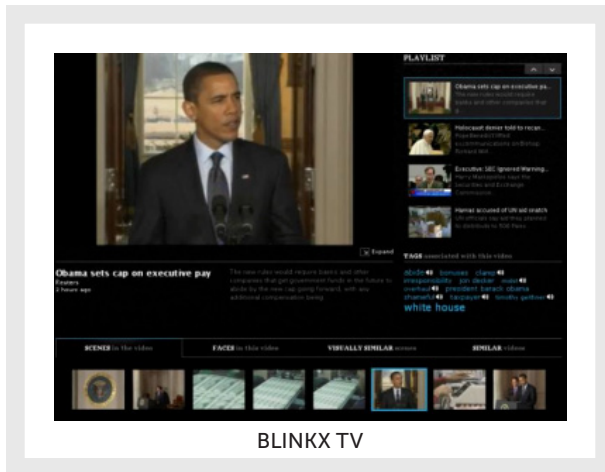
Connected TVs are on their way to becoming the household's main digital management system for video, picture and music files, whether they be saved on the hard drive of a personal computer, external devices and/or in the cloud.

Usually, manufacturers of game consoles or connected TVs use Media Center systems designed by companies such as Plex or Rovi to manage the arrangement of the features housed on the general interface.

“Since November 2011, users can send videos in queue by email. Each queue now has its own email address. Videos sent by email could be then viewed on a MAC, PC, smartphone or any device running the myPlex application.”

EXCERPT FROM PLEX MEDIA CENTER'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

³⁴ http://news.cnet.com/%20/8301-31001_3-20027507-261.html?tag=mncol;txt



Blinkx TV, one of the most popular Media Centers on the market, manages a search engine that gives access to over 35 million hours of video content and more than 720 partnerships in the media, some of which are national broadcasters. Its system combines proprietary conceptual research, voice recognition and image analysis, which is also at the heart of its blinkx AdHoc service, a contextual advertising platform for online videos designed to embed customized ads into TV content and videos on the Web. blinkx AdHoc service offers the viewer a less heavy and less bothersome advertising experience.

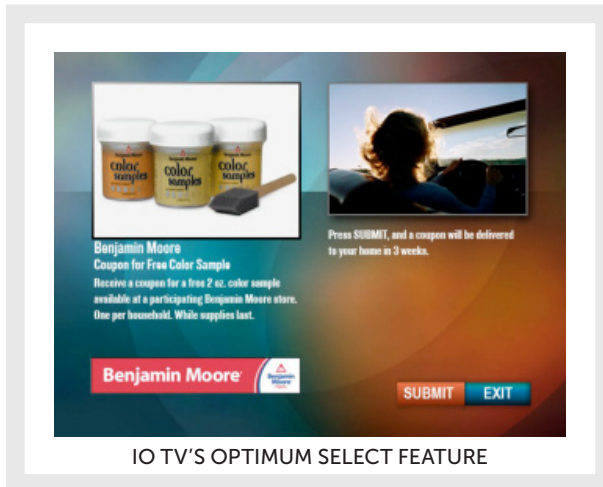
“In 2011, blinkx acquired Burst Media and PVMG, an ad network and digital marketing agency in order to integrate them to blinkx’ video search engine to manage the 1.5 billion daily searches and bring up more pertinent video results. With this deal, blinkx hopes to bring its 35 million hours of online video and TV to Burst’s network of over 157 million unique users.”

EXCERPT FROM **BLINKX**’S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

4.6 T-Commerce



As with Web and mobile industries, companies must capitalize on the numerous t-commerce-a tool to make purchases directly on a connected TV sales opportunities. According to a report released by Park Associates, there will be over 8 billion US dollars worth of transactions conducted via connected modules by 2015.



There are already a few initiatives to get viewers to purchase items seen on Smart TV. Users can purchase merchandise featured during a show on the HSN channel, find the Ford dealership nearest to them during an ad brought to them by Yahoo! Broadcast Interactivity or even receive coupons by mail after watching an interactive ad on Cablevision's iOTV.



In France, users of the Toshiba Places interface can reserve a table at a restaurant with the TV application TV Chronorestor, shop for property for sale or for rent with TiVimmo or even use Maxicours, an educational support interactive platform.

eBay wants to take advantage of the fact that the average American spends 5 hours a day in front of his/her television set (according to Nelson), and has thus developed its own t-commerce application "Watch with eBay". Designed for digital tablets, this application enables users to e-shop and purchase products associated with the television shows once they have entered their postal code, selected their cable provider, the channel and the show they were watching, in real time.

"Using event-specific keyword searches, the application will surface relevant merchandise from the over 200 million items on eBay. Transactions are done via Paypal."

5. ADDED VALUE FOR PLAYERS ACROSS THE VALUE CHAIN

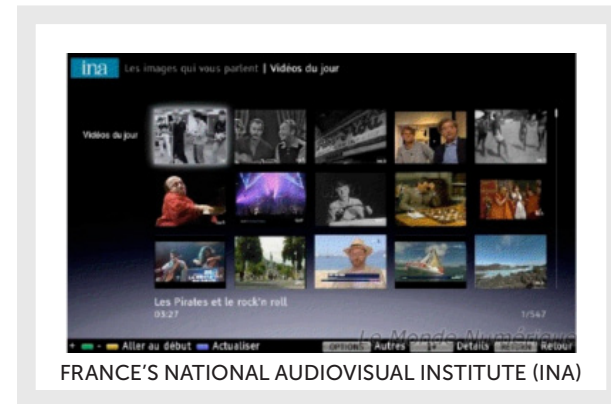
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The advent of Connected TV is accelerating the transformation of the production and broadcasting chain first started by the boom of cross-platform development in the mid-2000s. Once dominated by independent producers, broadcasters and cable providers or satellite services, the audiovisual market is now stormed by Web content aggregators, telecoms, ISP, Web, mobile and television application developers, and even manufacturers of technology consumer products (Consumer Electronics or CE).

The industry has made TV the main gateway to linear and interactive content and diverse applications, and it has opened the door to an exponential offering of increased formats and durations. It thus forces regulatory institutions to redefine certain matters in exploitation, access and funding.

Other challenges are the subject of heated debates all over the world. Business matters faced by longtime players of the value chain and their juniors include:

5.1 The use of premium archive services



At the forefront of technological trends, France's National Audiovisual institute (INA), which was one of the first in its field to give free access to digital Web archives in 2006, provides an exclusive closed source interface to connected TVs built by Samsung, Toshiba, Philips and soon Sony. It is doing so to showcase, with the consent of partner channels, 30 000 hours of Web and audio (INA Radio) content along with INA Photo archives and advertisements (INA Pub) spanning over the last 60 years of French TV.

This offering, constantly updated with news summaries on a daily basis, conforms to the most recent standards and formats for digital TV 16/9. Content is available for free, but in a piecemeal fashion (news reports, events, etc.), while the paid subscription service INA Premium, enhanced with 25 additional hours per week, gives open and unlimited access to a certain amount of added-value content, showed in its entirety and with a better image quality.

CHAPTER 5

ADDED VALUE FOR PLAYERS ACROSS THE VALUE CHAIN

In summer 2010, the American platform Hulu implemented its monthly subscription service, which, in addition to generating advertising revenue via embedded ads in videos, gives complete and universal access to its content library (complete seasons and additional episodes of series already available in its free version). Essentially, this service promotes TV shows.

“In order to reach a Latin-American audience, in December 2011, Hulu and Hulu Plus launched a channel dedicated to Spanish programs with 11 content partners, such as Univision, Estrella TV and Azteca America. This portal is sponsored by Corona, Modelo, Toyota, Pantene and Volkswagen of America.”

EXCERPT FROM HULU'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM



In Canada, TOU.TV, a VOD cross-platform service created by the national public broadcaster Radio-Canada, allows users to access entire seasons of classic TV shows in which are also embedded commercial breaks, thus generating new platform revenue from archived and original production content exclusively destined for Internet users.

5.2 New TV audience measurement tools

The growing trend of cross-platform consumption had already led big audience census agencies, such as Nielsen and BBM, to rethink their methodology and audience sampling. They must now consider the traffic generated by multiple content platforms through various broadcasting channels (Web, TV, mobile).

Unsurprisingly, ad money is once again the prime issue in this technological renewal, so much so that in the United States the national networks only place a limited amount of offerings on connected platforms that generate advertising revenue they cannot themselves benefit from.

In France, the TF1, M6, Canal+, France Télévisions, BFM TV and Direct 8 channels, annoyed at seeing third-party interactive services superimpose themselves on their shows, want to implement a “charter of good conduct” to dissuade television manufacturers from integrating services that could compete in any way, shape or form, with their own shows.”³⁵

This new reality presupposes a more thorough redefinition of audience measurement tools; each individual should be using five to six connected monitors (mobile, television, computer, digital tablet, etc.) in the next three years alone. The Coalition for Innovative Media Measurement (CIMM), which includes 24 partners³⁶, was established to find more accurate audience measurement tools to identify consumer habits more faithfully in regards to Video TV and cross-platform usage across all digital offerings (TV, radio, print, Web and mobile).

³⁵ <http://www.numerama.com/magazine/17230-les-chainnes-francaises-veulent-limiter-les-televisseurs-connectes.html>

³⁶ AT&T, Belo, CBS, Carat USA, Comcast, ConAgra, Discovery Communications, Gannett, GroupM, Hearst, Interpublic Group's Mediabrands, Microsoft, NBC Universal, News Corp., Omnicom Media Group, P&G, PepsiCo, Publicis Groupe, Time Warner, Unilever, Viacom, The Walt Disney Company, A&E Networks and Scripps Networks support the coalition.



CHAPTER 5

ADDED VALUE FOR PLAYERS ACROSS THE VALUE CHAIN

In April 2011, The NPD Group placed itself way ahead of the game by acquiring the American firm in-Stat, which implemented the US Digital Entertainment Tracker. This tool identifies consumption habits in digital and mobile, and compares data on the entire range of Web-enabled modules, services, content, forecasts and trends in order to know who is watching what on which device.³⁷

Lastly, it is important to note that, as part of its new convergence advertising strategy, FOX Broadcasting announced in May 2011 that Web viewers will now be counted in the total viewership of its content and promised to extend its ad funds to portals FOX.com and Hulu, which offer online episodes of its shows.³⁸

(App Store), are willing to share revenue generated while avoiding considerable production fees;

- 2 – *Closed Source Systems* (Wii, parallel content of HbbTV European standard members), which prefer to invest in original productions with the help of advertising partners to distinguish themselves from competitors, are willing to bypass the offering of traditional content providers and thus offer the consumer content without intermediaries.

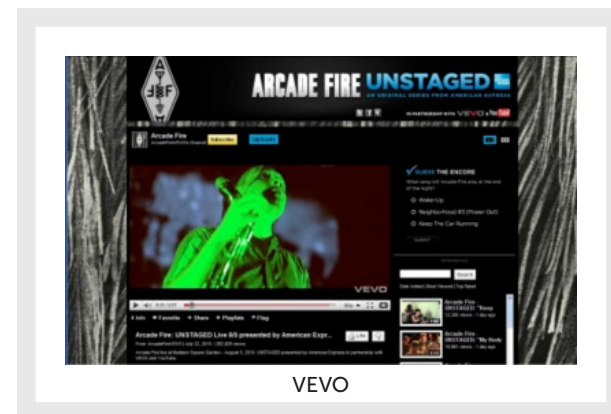
Furthermore, adding added-value television shows to a traditional offering already seems to be becoming very promising.

5.3 Funding sources for new added-value content

At this time, the main connected TV innovations have been achieved technology wise. The next step would be to put in place the necessary infrastructure to effectively exploit linear (television series, movies and music videos) and non-linear (applications, searching and consulting metadata) content.

Currently, only a handful of initiatives around professional standard production have been brought forward; they reflect two trends in terms of content:

- 1 – *Open Source Systems* (Smart TV, Plex, Yahoo! Connected TV, etc.), which invite external content producers—especially independent application developers—to increase the platform offering by making their creations available on online storefronts



In North America, VEVO, a joint-venture between Universal, Sony and Google, launched its Web activities in 2009 as one of the Youtube channels dedicated to music (music videos, concerts and interviews) in order to compete with MTV Online. Known as the Hulu of music videos, VEVO has a catalog of 25 000 videoclips having generated 1.7 billion international views. In order to expand its offering, it created a window separate from traditional networks in order to add original added-value material around the content of its founding partners. This way, VEVO provides additional visibility for artists, broadcasters and advertisers to reach a broader audience in a more personalized and interactive way.

³⁷ <http://www.appmarket.tv/news/830-us-consumer-households-will-own-5-10-web-enabled-ce-devices-by-2014.html>

³⁸ <http://www.fierceonlinevideo.com/story/fox-sees-convergence-online-broadcast-ads-and-audience/2011-05-18>



Interactivity is actually at the heart of its original series “Unstaged: An Original Series from American Express” (30 million total streams). It is a series of exclusive, free concerts broadcast live on VEVO offering the viewer the option of selecting from multiple camera angles and visual effects, immersing themselves in the pulsing crowd energy or even that of other only viewers through the traffic on the social networks linked to the event during its broadcast. Viewers can also send photographic material, which would be used both on the VEVO interface and on the monitors on the concert stage during its broadcast. VEVO also has an online boutique of affiliated products and has become the exclusive broadcaster of the popular Bonnaroo Festival. Available in United States and Canada, VEVO is now available in Europe, where it was ranked the sixth most visited Web site during the month of March 2011.³⁹

In Malaysia, the interactive interface of the B.yond set-top box by Astro, the biggest media group of the region, includes Astro's own applications, such as three channels of social forums under the name ChatTV (free) and Astro StockLink (monthly subscription), an application containing updated information on the activity of the Kuala Lumpur Stock Exchange (KLSE), the development of a user's customized portfolio of favorite stocks, stock trends, stock markets, news and a search engine.

“Recognizing that young patients in pediatric care need positive motivation during their hospital stay, Astro has teamed up with 56 hospitals in Malaysia to provide better access to Kampus Astro's local and international learning channels by distributing Astro decoders and satellite antennas as part of their social responsibility programs.”

EXCERPT FROM **ASTRO B.YOND'S** FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

Others prefer to finance their own productions as a complement to the main content, e.g. added content on DVDs. In France, Orange's interactive portal is available on LG Netcast connected TVs, and it produces sports-related news bulletins and original and exclusive movie magazines. As for the gaming industry, Nintendo produces exclusive video interviews with the people behind the new strands of its game franchises for users in the Wii community. Panasonic has chosen the game developer Gameloft to create a range of “casual” 3D games that will be offered exclusively on its connected platform VieraConnect Market.

Let us finally mention Netflix, which first started as a VOD service. It has been involved, in the last few months, in the production of television series and now competes with the traditional networks that have been supplying it since its beginnings.⁴⁰ This decision could have repercussions not only on other interactive services, but also on every single player of the value chain.

³⁹ <http://datanews.rnews.be/fr/ict/actualite/apercu/2011/05/13/les-sites-web-americains-les-plus-visites/article-1195010746054.htm>

⁴⁰ <http://www.deadline.com/2011/03/netflix-to-enter-original-programming-with-mega-deal-for-david-fincher-kevin-spacey-drama-series-house-of-cards/>

5.4 Redefining the territorialisation of rights

In 2011, while connected televisions were shipped on all five continents, affiliated content offerings remain, except for a few exceptions, limited to traditional territories of operation: the Americas, Europe and the MEA (Middle East and Africa).

“Native” services developed by manufacturers are included in the operating interfaces integrated into televisions from one country to another. However, content aggregation services (Hulu, Amazon Cloud Drive, BBC iPlayer, Walmart-VUDU, Netflix, etc.), due to the nature of signed agreements with content producers and right-holders, have to restrict their reach to a few countries in accordance with the type of agreements that are in the television industry.

“BBC launched a Canadian version of its iPlayer in December 2011, thereby preempting the American version, long awaited, but once again delayed. Free or paid versions will be available for 30 or over 100 hours of content updated on a monthly basis.”

EXCERPT FROM BBC IPLAYER'S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

Selling TV applications could serve in this regard as a Trojan horse to redefine the notion of territorial restriction; developers could sell their products on different platforms simultaneously. The same notion of territory would cover geographical and technological considerations along with the struggle between manufacturers, content providers and aggregators to exploit the television screen, the interactive interface with which users search, set and define their choices.⁴¹

⁴¹ <http://www.la-television-connectee.fr/>

⁴² <http://www.tvtechnology.com/article/120858>

According to communications giant Alcatel-Lucent, the renewal of current content transmission agreements between cable providers and content providers will be puzzling, and additional fees could be expected for the relay of TV everywhere and connected TV content. A few cable companies could then be tempted to use connected TV to go beyond the traditional territorial limits and go from being regional providers to national operators.⁴²

5.5 Redefining multiple package deal formats

Like content on WebTV, content providers already make full use of connected TV to offer various free or paid versions of a same show. HBO GO and Hulu Plus are the main promoters of exploiting various formats.

Thus, viewers can watch the entire season of a series or one episode at a time, get long or modified versions of an episode financed by commercial breaks (free) or without commercials (premium), stand-alone clips (e.g. sketches from a comedy show), create montages (e.g. segments from newscasts) or use the best-of form (e.g. highlights of an award show or a sporting event).

5.6 Increased access over image quality: the Netflix way

Broadband broadcasting (through an Internet connection rather than cable) currently has three flaws:

- 1 – an image quality often inferior to HD or Blu-ray standards;
- 2 – intermittent data stream according to time and the traffic on the network;
- 3 – lack of high-speed Internet services in remote areas.

According to applicable regulations, the cost of using bandwidth is a relevant factor in the development and deployment of connected TV services. In territories where bandwidth is set at a fixed rate, there are more unlimited consumption packages. However, in regions where the user is charged additional fees according to gigabyte use, per-byte billing is more popular.

The Canadian Radio-television and Telecommunications Commission (CRTC) rescinded, in Spring 2011, its decision to let Internet providers like Bell and Rogers use usage-based billing to charge their clients instead of offering them traditional capped plans. The massive consumer backlash influenced this verdict; 14% of users represent more than 83% of the traffic on the Internet.⁴³

Last November, the CRTC showed a willingness to listen to the demands of ISPs by introducing a pricing model that would have small providers pay for the capacity needed as opposed to the volume of downloaded data, a new approach that is supposed to provide a solution to the issue of increasing bandwidth use while allowing ISPs to provide competitive deals.

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5.7 Secure and universal identification

In order to achieve the full commercial potential of the interactive or on-demand services at the core of connected TV, many industry leaders are looking into developing a universal standard in terms of personal identification. This would prevent the consumer from having to create accounts for each application or service, and it would also provide secure t-commerce transactions.

⁴³ <http://www.cyberpresse.ca/actualites/quebec-canada/politique-canadienne/201102/03/01-4366698-facturation-dinternet-a-lutilisation-le-crtc-recule-devant-la-gronde.php>

⁴⁴ <http://www.lesaffaires.com/imprimer/secteurs-dactivite/technologies-et-telecommunications/netflix-s-attaque-aux-limites-de-telechargement/528991>



PAYWIZARD

In August 2011, PayWizard, which provides a payment platform for the multi-platform market, has released a TV app for Samsung's Smart TV to allow users to buy digital or physical goods using a digital wallet (e-wallet) with the flick of a button. It also allows users to manage their personal account and self-service top-ups, and archive online transactions.

Furthermore, the creation of micro-payment solutions also serve to offer content proprietors a global vision of individual consumer behavior and global consumer habits on connected devices, and help marketing agencies develop better targeting promotions tailored to the broadcasting platform.⁴⁵

“Philips is innovating by allowing users of its Smart TV environment to pay for their t-commerce purchases through a virtual account, with the agreements of their banking institutions, with a secure PIN number. Users could then manage transactions with a connected TV. Smart TV Payments will be available throughout the territories in which Philips TVs are sold by the end of 2012.”

EXCERPT FROM **PHILIPS SMART TV WITH NETTV'S** FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

⁴⁵ <http://www.v-net.tv/NewsDisplay.aspx?id=552>

6. STATEMENTS MADE BY WORLDWIDE STAKEHOLDERS AND PROFESSIONAL ASSOCIATIONS

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The rapid increase of Over the Top (OTT) services via set-top boxes or Smart TVs continues to raise a lot of questions about the regulatory framework that regulation agencies such as the CRTC in Canada, the Federal Communications Commission (FCC) in the United States or the Office of Communications (OFCOM) in the United Kingdom can impose:

- Which parameters will national watchdogs have to establish to greenlight new broadcasting services and thus stand up to foreign competition, such as Netflix and iTunes, already deployed in their country?
- On which basis can we make these foreign services return a portion of the profit gained in the particular geographic territory into the production of local content?
- Will pay-per-use billing hinder the growth of the connected services industry? Is it, on the contrary, a necessary framework to handle increasing operation costs and bids for the scarce spectrum resources for Internet rebroadcasting still available?
- Must we prioritize protecting the consumer or the assets of big national companies and risk limiting access to innovations, better offerings and more competitive prices?

As there is a moratorium on these issues, here is a quick scan of the positions endorsed by different stakeholders and professional associations affected by the boom of connected services.

6.1 Internet Service Providers (ISP)

FRANCE

On bandwidth: “HD broadcasting requires 1.5 times more bandwidth than broadcasting in SD, and 3D eats up 1.5 more bandwidth than HD. [...] But the volume of these two technologies will increase over the course of the years to come. This growth will call for the increase of bandwidth, the improvement of compression systems and the increase of spectral efficiency of the terrestrial network [...]. **Networks are under a lot of pressure, and some operators [...] are questioning themselves on their position. Are they only cable providers or also audiovisual service providers? [...] Most of these operators should adapt their strategy according to the developments of the [VOD] market, mainly in the context [...] of the arrival of foreign competitors.** These developments will therefore determine whether they will stay on the market or leave and focus rather on their management and network development roles.”

➤ Excerpt from the final report *Les Perspectives du secteur audiovisuel à l'horizon 2015*⁴⁶

CANADA

On spectral expansion: “[...]Four new companies (WIND Mobile, Mobilicity, Public Mobile, Shaw and Videotron), which have put forth refreshing and innovative ideas, have entered into the market, and now Canadians benefit from more choices and better services for better prices.

⁴⁶ http://www.culture.gouv.fr/mcc/content/download/10770/71907/version/1/file/Rapport+final-Mission+Dominique+Richard_27+avril+2011.pdf



CHAPTER 6

STATEMENTS MADE BY WORLDWIDE STAKEHOLDERS AND PROFESSIONAL ASSOCIATIONS

If the Canadian Government wants to see how well the industry can perform when carriers can really compete, an equal footing is the place to start. **Ottawa must fix the spectral imbalance that favors Rogers, Bell and TELUS.**

- Robert Dépatie, president of Videotron, at the Canadian Telecom Summit held in Toronto in July 2011⁴⁷

6.2 Technology manufacturers

FRANCE

On exclusivity negotiations between channels and manufacturers of connected devices: “Anything that breaks down the offering to the point of reducing consumers’ choices is not good. The experience is the worst when the audiovisual content we want is not available on our television screen because of its brand. [...] We have to give [viewers] the opportunity to switch up their choices, especially since a TV is kept for numerous years, and it has a lifecycle much longer than that of a phone or computer. Users should be able to change content services throughout their TV’s lifecycle. [...] In the struggle to come, prices will drop (for access to content and services). **We must make sure that there is a fair breakdown of value, but without creating arbitrary distribution.** [...] And not to mistake “non discrimination” (impossibility to favor this or that service) and “must-carry” (obligation to carry all services in the networks). We can “must-carry” while discriminating. [...]”

- Marc Tessier, former president of France Télévisions, during the AFDESI⁴⁸ national conferences on connected TV ⁴⁹ in June 2011

⁴⁷ <http://www.marketnews.ca/LatestNewsHeadlines/FEATURE:GoingMobile-CanadianTelecomSummit2011.html>

UNITED STATES

On the advent of Google TV services on Xbox consoles: “The battle going forward is not so much about the hardware, it’s about content. Microsoft’s platforms (Xbox Live and Windows Media Center) are more mature and capable than Google TV. But Microsoft now recognizes that Google is serious about getting into the living room. They want to prevent Google TV from getting a major beachhead in the home.”

- Rob Enderle, principal analyst at Enderle Group, November 2010⁵⁰

6.3 Broadcasters and cable providers

CANADA

On the impact of OTT services on broadcasters (as part of the Broadcasting and Telecom Notice of Consultation CRTC 2011-344 on alternative programming services in the Canadian broadcasting system):

- A – “Astral maintains that all new media enterprises—including foreign companies [...]—that have a paid relationship with Canadian consumers, in other words, all those that offer à la carte services or packages available to Canadians—should be subject to the new media exemption order and abide by obligations of this nature, or else be banned from exercising broadcasting activities in Canada. [...] But one thing that the Council can do immediately is to start making amendments to the order, removing some of the obligations and constraints that

⁴⁸ Association for the Development of Enhanced TV Services and Interactivity

⁴⁹ <http://www.oezratty.net/wordpress/2011/assises-afdesi-sur-tv-connectes/>

⁵⁰ <http://content.usatoday.com/communities/technologylive/post/2010/11/xbox-live-grapples-with-google-tv-for-access-to-your-living-room/1>



prevent licensed Canadian companies to react promptly and deliver an effective competition to new media companies acting both as substitute and competitor to the Canadian broadcasting system without any obligation whatsoever.”⁵¹

> Excerpt from Astral Média’s submission

- B –** “According to Corus, the most important question raised by the presence of OTT services like Netflix in Canada is the potential impact of these services on the integrity of the Canadian market and television rights.”

> Excerpt from Corus’ submission

- C –** Rogers maintains “competitive parity with VOD companies through the elimination of packaging restrictions on library feature film and television programming SVOD⁵². This would allow providers to offer the same range of content on cable as on the Web. Rogers does not believe that the answer is to regulate OTT services. We do not believe that such an approach would be realistic in terms of viewer expectations. Instead of this, **the Council should focus on the deregulation of broadcasting companies that are directly competing with OTT services.**”

> Excerpt from Rogers Media’s submission

⁵¹ <https://services.crtc.gc.ca/pub/DocWebBroker/OpenDocument.aspx?DMID=1586321>

⁵² Subscription Video On Demand (Vidéo à la demande avec abonnement)

6.4 Content and application producers

CANADA

On the contribution of OTT service providers to national production: “We encourage the CRTC to ensure that all players in the system, regardless of if they are foreign or national, contribute to its well-being and to fulfilling the objectives of the Canadian Broadcasting Act. The OTT services of today are a complement, a partial replacement and a potential substitute to BDU services⁵³. **All potential negative impacts on BDU revenue will have a proportionately negative impact on the funding of the Canada Media Fund (CMF) and other independent production funds.** Without support from OTT services, producers will have to create with less funding, which will cause a negative domino effect that will hinder all aspects of the creative industries.[...] **In addition, OTT services currently have no obligation to provide Canadian productions, and, in the absence of requirements, this has the potential to limit Canadians’ options in terms of Canadian content.** If contributions by BDUs diminish by 5 %, **Canadian content will lose 5 million dollars worth of funding.** [...]”

The CMRI⁵⁴ estimates that over the next ten years, the audience share of Canadian television shows would go from around 33 % to a bit less than 27 %. [...] This would mean that Canadians would spend 2 billion hours less per year watching Canadian content, to the benefit of American shows (and content providers).”⁵⁵

> Joint submission of ACTRA, APFTQ, CMPA, DGC and WGC

⁵³ Broadcasting Distribution Undertakings (BDU)

⁵⁴ Canadian Media Research Inc. (CMRI)

⁵⁵ <https://services.crtc.gc.ca/pub/ListeInterventionList/Documents.aspx?ID=158475&Lang=f>

6.5 Advertisers and advertising agencies

FRANCE

*On Google's aim to reproduce its Web advertising model on connected TV: "Internet truly obeys a principal that dictates that traffic (and consequently advertising revenue) diminishes as the surfer leaves the entry point and goes to the specific content searched. Thus, the search engine captures more results than the portal, which generates more results than the final site of the content (e.g. information site, Catch-up TV, etc.). **This capacity of the search engine, located before the content, to generate a big chunk of the advertising revenue explains in part the dominant position of Google on the market of online advertising, and would explain its aim to replicate this model across cultural content (press, book, video).** [...] Moreover, until Google itself provides content via Youtube, the issue of search neutrality will be brought up. **Search results have such a strong impact in terms of directing traffic and value (over [50%] of people stop at the first page of the results, 80% of these people focus on the first few results) that it seems quite necessary to have guarantees that Google or other search engines to come do not voluntarily place their content ahead of others.**"*

> Excerpt from the final report *Les Perspectives du secteur audiovisuel à l'horizon 2015*⁵⁶

*On the regulatory nuances that interactive advertising imposes "[...] The CSA ⁵⁷ imposes a strict separation between messages and shows. Furthermore, **the emergence of banners, widgets, branding content and other licensing, not to mention the topic of respecting the broadcaster's signal in its entirety, incited confusion over applicable regulation, to the detriment of publishers of television services** (cited henceforth under the name "*la stratégie du coucou*"). The CSA, AFDESI, Cap Digital, the Syndicat national de la publicité télévisée (SNPTV) and the Union des annonceurs (UDA) are working toward elaborating a regulatory*

framework on interactive advertising and have to publish a White Paper on the matter."

> Excerpt from the final Report *Les Perspectives du secteur audiovisuel à l'horizon 2015*⁵⁸

UNITED KINGDOM

On the creation of the IAB Video Council UK: "We have made significant progress over the last year, but there is still lots to do in the way of demonstrating the value of online video as a powerful medium for brands to connect with consumers. The Video Council was established in June 2007 and has since grown to a committee of over 50 leading companies in the VOD industry, including leading media owners, media agencies [...] and technology providers. It has helped educate advertisers and media agencies about the potential of online video advertising on all devices, improved business practices through standards and driven the growth of online video advertising market to reach £54 million in 2010."

> Dan Ruch, co-president of IAB UK⁵⁹

⁵⁶ Idem, p. 31

⁵⁷ Conseil Supérieur de l'Audiovisuel

⁵⁸ Ibidem, p. 37

6.6 Media Fund

FRANCE

On the funding sources specific to non-linear offerings: “Non-linear offerings need to have shows with an identifiable label or brand. For television series, of all genres, this brand is often that of the publisher who financed it. As concerns units, collective systems, following establishment, could be provided by voluntary subscription to small and medium-sized production companies. **An economic interest group (EIG)⁶⁰ could be created to label and promote independent productions in business negotiations and marketing actions. These producers would still maintain their creative independence.** Adding expenses, such as marketing, optimization, recommendations, pushing and eventualization of channels (or groups), into production requirements could even have a positive effect on the visibility of French productions in a non-linear hyper-choice universe.”

➤ Excerpt from the final report *Les Perspectives du secteur audiovisuel à l'horizon 2015*⁶¹

UNITED STATES

On the type of contribution from OTT services in terms of content funding: “Some people believe that Google should invest directly in televisual content. This argument ignores a crucial element: **Google is first and foremost a technology business.** We create platforms to encourage public engagement to content and, with the use of

an automation software, link these ads to content right-holders had preselected themselves. [...]

However, we are contributing in our own way to funding content. Last year, we shared more than 6 billion dollars with our content partners worldwide, including the press and broadcasters. In some countries, we have developed close relationships with channels using our Catch-up TV services. [...]

We are also investing in other areas linked to the television industry. Throughout the years Google has spent billions of dollars improving local IT infrastructures and our search engines, which telecom companies and producers outside the United States have enjoyed [...] Exceptionally, we invest in certain projects that use the possibilities of our resources in an innovative way. Our NextUp contest provides ‘seed funding’ and classes to immersing talents discovered on Youtube; soon, we will also invest in an online film-making and distribution module as part of the UK National Film and TV School curriculum. [...]

Ultimately, the bulk of our investments should focus not on creating content, but on developing platforms that cater to a global audience of 2 billion viewers, and this, for free. That's where our strength lies, and it is the way we want to contribute to the future of television.”

➤ Excerpt from the speech made by Eric Schmidt, Google CEO, as part of Edinburgh TV Festival in August 2011⁶²

⁵⁹ <http://www.iabuk.net/en/1/daglishandructochairvideocouncil260811.mxs>

⁶⁰ Economic interest group

⁶¹ Id., p. 14

⁶² <http://www.guardian.co.uk/media/interactive/2011/aug/26/eric-schmidt-mactaggart-lecture-full-text>



Connected TV is the first step toward a global connectivity of the entire set of household technology devices. Beyond simple delinearization of content and the global audiovisual offering, the advent of the Internet at the core of the structure of multimedia content programming allows viewers to choose the way they want to enjoy their entertainment and interactive services, and also enables them to customize the environment of their favorite content along with choose where they get it from.

7.1 A personalized, evolving interface

Like a computer desktop, the main interface of the connected TV can be modified according to the preferences of the registered profiles corresponding to different family members. Along with being able to choose their own channel packages, each of them can choose the way favorite applications, widgets and real-time Twitter or Facebook feeds are added—a feature that also provides a more effective parental control option.

Each member can have their own audio or video archiving space in cloud in order to download and store their movies, television series, music videos, games, pictures and music files.

Lastly, the ability to perform updates on the connected TV operating systems and the main and secondary interfaces, and add new applications are a way to prevent premature obsolescence of devices and features while offering the viewer unprecedented ergonomic independence.

7.2 A tool for adapted to every type of user, young and old

Like personal computers, connected TVs can accommodate the various preselected parameters of as many users as are in the household.

Thus, parents can manage the parameters of their children's user profiles in order to prevent them from entering into contact with inappropriate content, being exposed to cyber-predators on social networks or making banking transactions via t-commerce services. This option is offered to clients of Apple TV⁶³, and several TV everywhere service providers, among others.

Connected TV can be a true agent of social inclusion for elders and people with reduced mobility thanks to applications such as T-Seniority, a pan-European aggregator providing access to local content from the Conseils Généraux dedicated to the elderly, practical information Web sites (WikiManche, MancheSanté) along with alerts in case of important events. The services allow people considered to be “digitally-marginalized” to communicate more often with loved ones, order a cab, a repair, make an appointment or even manage their bank accounts online with a user-friendly interface.⁶⁴

⁶³ <http://www.extremetech.com/article2/0,2845,2260565,00.asp>

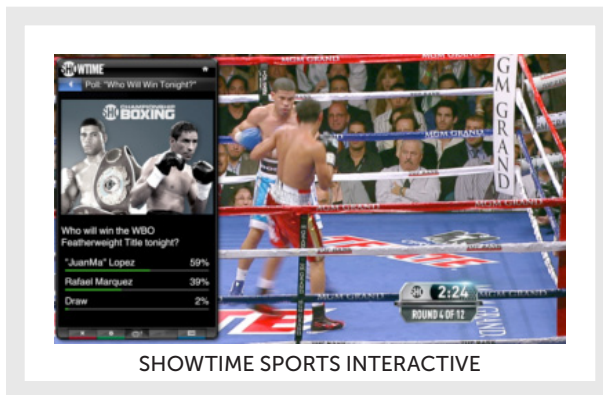
⁶⁴ <http://tseniority.idieikon.com/index.php/lang-fr/the-project>

7.3 Bi-directional interactivity

Although interactive TV has been around for over twenty years—the Quebecer service Videoway was the first interactive television entertainment system in North America; it was launched in 1989 by the cable provider Videotron—two-way interactivity is one of the most promising components of connected TV.

In addition to providing intuitive solutions to consumer needs and demands based on data on their habits and preferences (buying and downloading), bi-directional services serve also to improve clientele relationship thanks to interaction in real time.

Advertising firms and content producers will continue to capitalize on this new exclusive and personalized relationship with the consumer, mainly through automatic content recognition (ACR).



This feature is already used by sports channels (i.e. Showtime Sports Interactive). Showtime Sports Interactive invites the viewer to check out player statistics, match scores and other customized content updated in real time, and also puts tools at their disposal allowing them to vote, switch up camera angles and reruns, consult their social pools and predict the outcome of big competitions.⁶⁵

As for Yahoo!, it has been promoting Broadcast Interactivity since 2010, allowing the viewer to participate in real time, via social networks, in votes and polls guessing the outcome of reality-TV shows. The viewer can also consult metadata of the stars of a show and even purchase items showcased in the added-value ads.⁶⁶

Announced in October 2011, the TV application zeebox plans to revolutionize automatic content recognition with a function that would analyze visual and audio data from any type of multimedia content; each element would then bring up a list of corresponding content on Wikipedia, IMDb, the iTunes Store and other online stores.⁶⁷

As for their French company Visiware, its solution PlayAlong, which allows the viewer to participate in game shows during their broadcast, has seen a stupendous success. The numbers do not lie: 200 programs broadcasted in 7 countries and over 8 million games played.⁶⁸

⁶⁵ <http://sports.sho.com/>

⁶⁶ <http://connectedtv.yahoo.com/developer/broadcastinteractivity/>

⁶⁷ <http://paidcontent.org/article/419-revealed-how-anthony-rose-plans-to-revolutionise-tv/>

⁶⁸ <http://www.facebook.com/pages/PlayAlong-TV/173663242704133?sk=wall#!/notes/playalong-tv/visiware-launches-playalong-a-new-technology-that-makes-television-shows-interac/187986724605118>

“Visiware announced in Dec. 2011 that it is deploying its Playin’TV games channel on connected-TV platforms from Loewe, Sharp, Hitachi, Telefunken, Finlux, Elemis, ITT and Insignia; the channel has been available on Philips connected-TV sets since 2009.”

EXCERPT FROM VISIWARE PLAYIN’TV’S FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

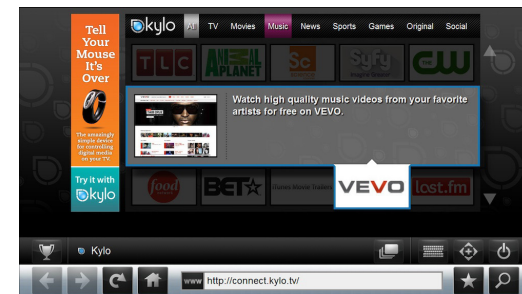
7.4 A personalized guide redesigned to fit search engine models

The era of hyper-choice—service offerings, applications, social networks and connected TV channels—has led developers to create new tools that enable viewers to direct their choice, program their personal video recorder or, most recently, put their next content to view in queue or archive it in a cloud.



ROVI'S ELECTRONIC PROGRAM GUIDE

The latest trend in the field is the Electronic Program Guide (EPG), a kind of intuitive blend of the conventional TV guide, the search engine and social media optimization. EPGs, which identify and manage both rich content (critiques, previews, pictures, hyperlink browsing inside castings) and social content (evaluations, comments), are to be used on tablets and smartphones, and are transformed into remote controls via mobile applications.



THE INTERFACE OF THE KYLO TV BROWSER

The Canadian company Espial dropped the traditional TV guide in favor of a TV browser. The Espial TV Browser, based on the open source software Webkit, provides a PC-like browsing experience on Smart TVs, set-top boxes, connected media centers and communication devices. From one module to another, this TV browser, similar to Kylo developed by the American manufacturer Hillcrest Labs, gives access to popular search topics, video, audio and picture files along with a fair amount of applications, such as Google, YouTube, Daily Motion, Picasa, Facebook, Twitter and ESPN, and this, in more than 25 languages.

7.5 From individual viewing to Social TV

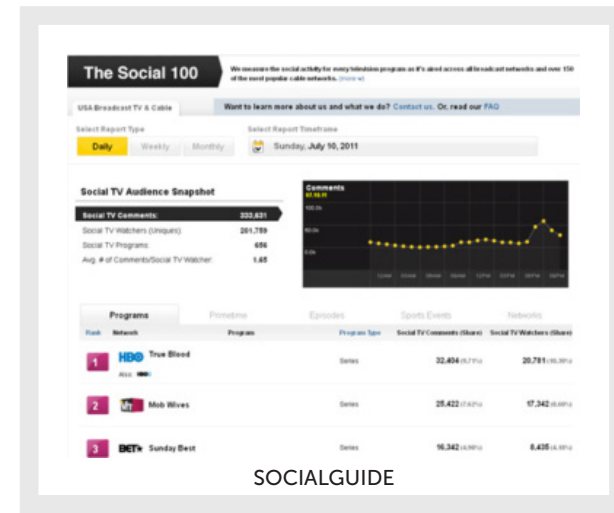
Born on the Web, Facebook and Twitter are without a doubt the most popular social networking services. Connected TV owners are used to evaluating recommending their favorite content to their group of friends through this medium. 60% of sales on Netflix were made after viewers read suggestions based on their viewed content history. As for Amazon, it owes 30% of its turnover to transactions made from its “Those who bought this product also love:...”⁶⁹



However, the tools of the real Social TV, those that were created specifically to share your TV preferences in real time and follow people in your entourage, are now called GetGlue (1 million users and 30 million entries per day)⁷⁰, Miso, BeeTV, Orange TVcheck and Yahoo! IntoNow. All of these social applications are launched on smartphones and digital tablets to show members of a virtual circle of friends which show connects them. They also allow them to view all the comments on the particular show or vote for their favorite show in real time.

⁶⁹ <http://www.guardian.co.uk/media/interactive/2011/aug/26/eric-schmidt-mactaggart-lecture-full-text>

⁷⁰ <http://getglue.com/about>



SocialGuide, a type of TV guide for the Twitter generation, has even put together “The Social 100” list, which ranks a show according to the traffic it generates on all the social networks.⁷¹ The advertising value of a show is thus not strictly linked to its audience rating, but also to the buzz it creates in the “twittersphere”—for example, a recent study conducted by TVGuide.com confirmed that the comedy Glee ranked fourth out of the American shows who generate the most buzz and engagement with viewers on social networks during its broadcast, whereas it rarely appears on the weekly Top 40 for audience ratings.⁷²

⁷¹ <http://www.socialguide.com/social100/7-2011>

⁷² <http://mashable.com/2011/05/13/most-social-tv-shows/>

CHAPTER 7

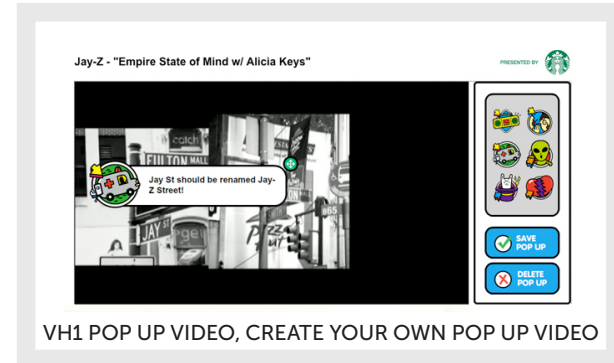
FUTURE ADDED VALUE FOR THE CONSUMER



TVGUIDE.COM, SOCIAL POWER RANKINGS

TVGuide.com, which attract 23 million unique users and has a TV application that has been downloaded 4.5 million times, has in fact launched in September 2011 its portal Social Power Rankings. This feature is updated in real time and deals with the most followed shows on Facebook, Twitter and the TVGuide.com Web site while highlighting the most striking or funny comments identified by TV Guide's editorial team.⁷³

⁷³ <http://www.tvguide.com/special/fall-preview/power-rankings.aspx>

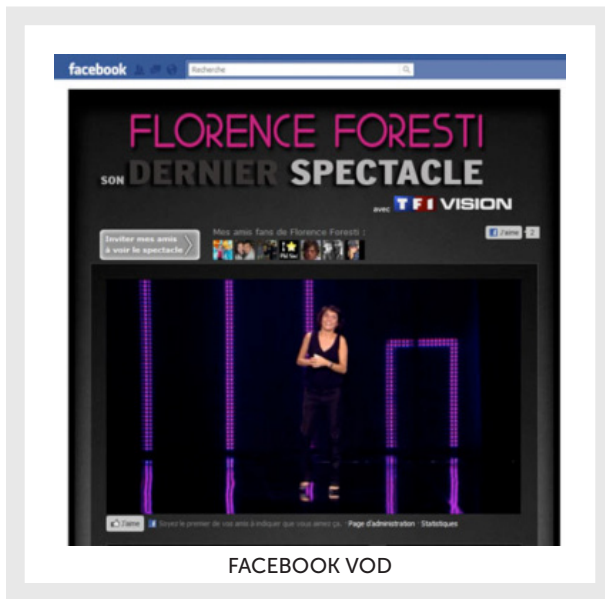


Social TV has thus helped create new jobs in the staffing structure in the TV industry, like social aggregators, as shown above. The American channel VH1 has even hired an editorial team in charge of the aggregation of comments found on social networks in order to integrate them into the pop-up overlay in the new version of their recently revamped popular show Pop-up video.⁷⁴

As for the Viacom empire, (CBS, MTV, Paramount, etc.) it created the position Head of Social Viewing to identify the needs of Social TV's avid clientele.

⁷⁴ <http://blog.vh1.com/2011-09-13/now-you-can-create-your-very-own-pop-up-video/>





Traditional content providers such as Warner and TF1 have remained faithful to Facebook; they have signed agreements to offer movies and rebroadcasts of à la carte concerts in the VOD Facebook environment, with the aim to maximize the exchanges around the content and drive referrals. In exchange, these distributors can also enter into contact with their clientele directly, without having to pass through an intermediary like Comcast, Netflix or Walmart-VUDU. Furthermore, Facebook remains the online store largely more frequented than other DVD boutiques, video clubs or even streaming VOD Web sites.

“In September 2011, the online video technology and services provider Ooyala, launched Ooyala Social, a new high-quality social TV experience designed to enable Facebook users to share and chat with their friends and family while watching videos and discovering new content on several monitors and external devices.”

EXCERPT FROM **FACEBOOK SOCIAL CINEMA'S** FULL PROFILE ON SMARTMEDIAPLATFORMS.COM

7.6 Second screen and companion devices

The next step in the development of connected TVs seems to be taking shape around second screen and companion devices, such as smartphones, digital tablets and Internet-enabled technology. These devices enrich the interactive experience around content viewed on TV. According to a recent poll conducted by the firm Nielsen, 25% of digital tablet buyers have increased their use of their connected TV (Smart TV).⁷⁵

Karla Geci, strategic Partner development at Facebook goes further:

“What I think is an interesting thing for developers to focus on is how to make the overall experience on the television easier using second-screen. Television in the home is a shared device, and personalizing a shared device is difficult. But we often see that people watching television are multitasking so there's an opportunity to use the second screen to personalize and enhance the TV viewing experience.”⁷⁶

According to Dan Saunders, Head of Content Services at Samsungs Electronic Europe, the South Korean company holds the vantage position over other CE manufacturers as it is really the only major brand that

⁷⁵ <http://blog.nielsen.com/nielsenwire/?p=27570>

makes all devices in the household technology ecosystem—television sets, portable computers, tablets and smartphones.

“While smartphones and tablets are currently the most used companion systems, we want to extend this habit to other devices. Although it holds a predominant position in the connected ecosystem, the Smart TV is only the first step in the setup of a true Smart Home.”⁷⁷

Essentially, connected TVs will always be a popular screen for linear broadcasting of HD video, VOD and all other linear entertainment, but the purely interactive experience will migrate more and more toward companion modules to “feed” social networks, make online purchases or check metadata.

eBay and PayPal, companies which had already forecasted in November 2011 that the Christmas season would be lucrative in terms of tablet and mobile purchases, have predicted mobile sales of almost 5 billion dollars (gross volume of goods) and over 3.5 billion dollars in mobile payment volume in 2011. The eBay application has already been downloaded more than 58 million times—three purchases per second are made using this application via mobile devices all over the world.

7.7 Reinvented cross-platform browsing

The sheer experience of browsing has been enhanced by the intuitiveness of connected televisions and companion devices, such as smartphones and the digital tablet, which, with the use of TV applications, have transformed into improved remote controls.



US company Dijit has developed a universal application for cellphones—expressly named Personalized Media Assistant—combining remote browsing, an intuitive TV guide and social networking (it can be linked to a Facebook account).

UK's NDS, partially owned by News Corp., has created Snowflake, a universal programming interface with 3D icons users can control from any connected device with a six-button remote. Snowflake won three international awards in 2010.⁷⁸

⁷⁶ <http://www.smarttvsummit.com/europe/documents/1155SmartTVReportV2.pdf>

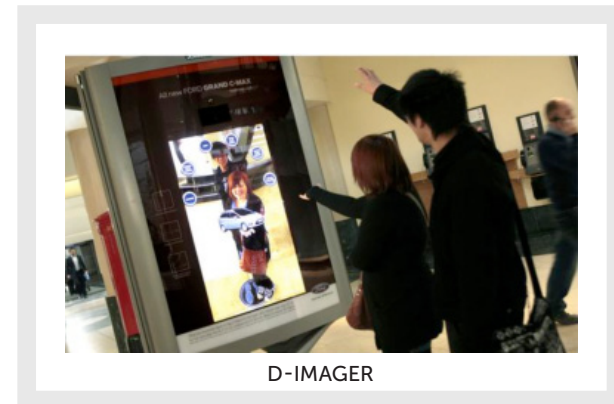
⁷⁷ Idem, p. 7

⁷⁸ <http://www.nds.com/solutions/snowflake.php>



While most manufacturers opt for less costly options, others attempt to distinguish themselves by polishing the browsing experience itself. LG's Magic Motion Remote, the Motion Engine technology at the heart of Hillcrest Labs' Loop Pointer and the Roku Game Remote⁷⁹, has the Wiimote-like ability to detect its spatial position thanks to a motion detector. These tools enable the viewer to travel through the various menus on the screen.

⁷⁹ http://hillcrestlabs.com/downloads/pr/Hillcrest_Labs_Roku_Final_Release.pdf



This concept has been taken a step further by Omek Interactive's Beckon SDK, which was created for the motion recognition camera D-Imager and integrated into Panasonic Smart TVs. Like Microsoft's Kinect, this camera converts indications given by viewers (via a revamped interface for applications considered to be "gestual") into data, without ambient light interference.

This breakthrough is currently spurring developers and agencies to create a range of unparalleled touch-less interactive experiences.⁸⁰ A digital signage, based on signed language of the hearing-impaired, already exists and should gain popularity in the next few years when more and more immersive content will be on the market and will need indications delivered in this language, be it individual or multiplayer.

⁸⁰ <http://www.businesswire.com/news/home/20110803005005/en/Panasonic-Bundles-Omek-Interactives-Beckon-SDK-D-Imager>

Most observers of the telecommunications and media industry have confirmed it: connected TV already is the new technology form in terms of TVs and content broadcasting and archiving. As such, producers, developers and distributors are already focusing their efforts on conforming and adapting their service offerings to this new reality, which will affect the entire population in the next five years.

Many trends are already emerging and influencing the power relations between the players of the value chain.

8.1 Increased “Coopetition” between competing companies

In Canada, Bell and TELUS share the same fiber optic networks. In the United Kingdom, telecom companies Arqiva, BT and TalkTalk are conjointly supporting the YouView platform. In the United States, NBC Universal, News Corporation and The Walt Disney Company cofounded the portal VOD Hulu to counter Apple’s iTunes.

More and more, companies that have a strong influence over the sector are forging alliances with competitors in order to beat the competition in other areas of activity. The cooperation vs. competition game should intensify in upcoming years before a new wave of consolidation or the arrival of new dominant players reshuffles the deal.

8.2 More partnerships to foster local content across international platforms

There is a considerable debate around the availability of non-American videos (shows and movies) on Over the Top (OTT) services established in foreign territories (e.g. Netflix in Canada). As for music and applications, it’s the opposite phenomenon: there are international products on boutique platforms such as iTunes (Apple) or Zune Marketplace (Microsoft).

Whether it be through local agreements with international manufacturers (e.g. LG with Orange and CanalPlay, Samsung with TFI, Sony with M6 Replay, Philips with NRJ, or even Panasonic with Bloomberg and Eurosport⁸¹ or through the implementation of interfaces within structures worldwide that generate a lot of traffic (e.g. TF1 with Facebook VOD), evocative branding initiatives will be brought to life to ensure visibility of content in the original market.

The first step to ensure the presence of the regional offering in connected products and the portals or applications of worldwide giants, such as Netflix, Google TV, Apple TV and Microsoft, will largely depend on the flexibility of regulatory dispositions each country will adopt. To paraphrase Marc Tessier, ex-president of France Télévisions, regulation and associated negotiations will be international.

We therefore will not be able to impose strict territorial rules. We will thus need to create “national regulatory corpuses” within international partnerships.⁸²

⁸¹ http://www.branchez-vous.com/techno/actualite/2010/04/sony_lg_samsung_panasonic_televiser_connecte_internet.html

⁸² <http://www.oezratty.net/wordpress/2011/assises-afdesi-sur-tv-connectes/>

8.3 Increase of monetization models for connected services

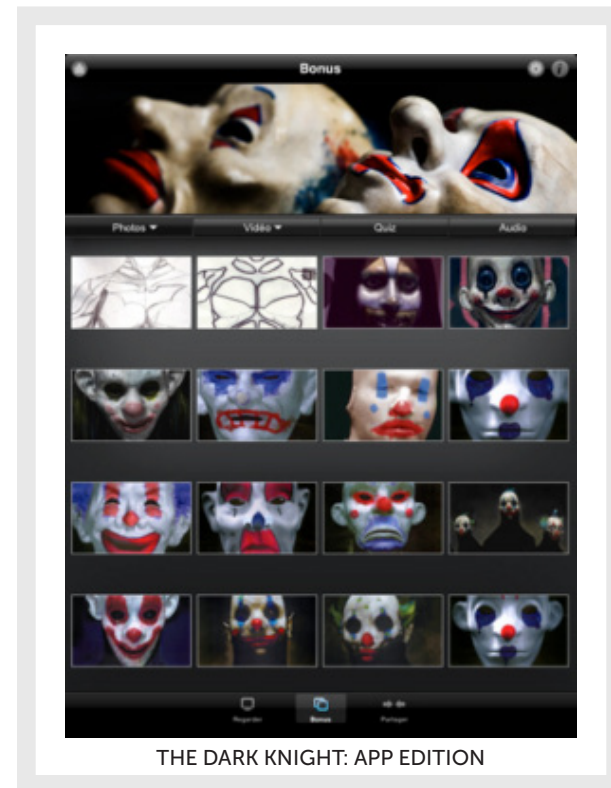
Many business models have been brought forward to fit each type of content (film, television series, archives, personal videos, music) or services (social networks, applications, games, information, distance purchasing).

As for applications, inexpensive *à la carte* services become expensive in the end for the pool of potential consumers.

As regards content, companies such as Netflix provide monthly rates for an unlimited use of their catalog, while others are opting for the good old Pay-per-view formula for one-time shows or sports events. A third option made popular by Youtube, among others, is the insertion of banner ads or commercial breaks.

In any case, clever tags for connected search engine optimization and the buzz rate on social networks will help increase the ad value of content and services on connected platforms considerably.

8.4 Growing popularity of connected applications



WarnerBros. Digital Distribution was one of the first to release a feature film available in the form of an application for mobiles, tablets and connected TVs.

The Dark Knight: App Edition, sold for \$9.99 US.

The new wave of cloud services (iCloud by Apple, Cloud TV by ActiveNetworks, Cloud Drive by Amazon.com) promotes the growth of video consumption in the form of connected applications available in various package options—in terms of image definition and/or peripheral metadata (information on cast, bonus features exclusive to the application) and social metadata. The user is able to share comments, rate and suggest connected content (other movies, television series, music and applications associated with the main film) in real time.

Although the connected TV phenomenon is still in its beginning stages, it has already created waves of change, bringing forth a sea of technological, philosophical and political paradigm shifts. In addition to decompartmentalizing content hierarchy and the barriers between manufacturers, broadcasters, producers and consumers, connected TV is shaking up historical conceptions on the impenetrability of platforms and territories.

Strategic alliances are also sprouting on a global scale. Such alliances aim to find new avenues to develop the economy specific to the connected market. As such, since November 2011, the Connected TV Marketing Association (CTVMA) has been an active promoter of “an environment where those linked to marketing, social media and digital screen media can gather, share best practices and explore strategies for success.”

The stance national regulatory agencies will take to face the economic and cultural issues behind these changes will have huge consequences on the way we design, launch, distribute and use all types of digital content. The goal is to make TV more personalized, social and interactive.

In Canada, the offering for connected TVs and set-top boxes is more modest than that in other places. Players across the value chain are already discussing the matter with the goal of adopting a regulatory and industrial framework conducive to the accessibility and the competitiveness of the Canadian offering toward the American market of Over the Top (OTT) services.

Meanwhile, in the United States, the Federal Communications Commission (FCC) aims to impose the AllVid standard. Supporters of the standard include Google, Sony, Best Buy, Mitsubishi, Nagravision, SageTV and TiVo. This new CableCARD would serve as a universal adapter for all types of PayTV content and TV applications delivered either by cable, satellite, VDSL, IPTV or connected televisions. However, members of the National Cable and Telecommunications Association (NCTA) vigorously oppose this potential intervention of the FCC and the idea to impose this

standard in the industry, judging that the TV Everywhere (TVE) formula, as do programming and cloud-based archiving, already fulfills this function.

“Risk taking, investment, and innovation flourish most fully when freed from regulatory technology mandates and participants in the marketplace are able to craft thoughtful solutions that optimize value to consumers.”

Michael Powell, ex-president of the FCC, now president and CEO of the NCTA.

In spring 2011, the Minister for Culture and Communication and the Minister for Industry, Energy and the Digital Economy in France launched a mission on connected TV, the Internet and its consequences on audiovisual regulation, and the financing of all forms of content. This mission is mainly centered around three structuring challenges: the different technologies available to manufacturers and the existence of possible exclusivity agreements; access to different types of media services and its growing impact on the funding of audiovisual creation and cultural diversity; finally, the way regulation of audiovisual content and intellectual property will be carried out, considering the fact that the use of search engines could give access to illegal content on TV. These conclusions will help identify the possible actions to set in motion on a national, even pan-European scale, in order to have connected TV as a complete economic and cultural instrument as soon as possible.

Last April, French Minister of Culture Frédéric Mitterrand summarized the core challenge that will affect different countries' intervention in the framing of broadcasting mechanisms surrounding connected TV:

“Connected TVs are, at the core itself of households, a combination of, on one hand, classic audiovisual media services subject to consequent regulation (child protection, restriction on advertising, respect on human dignity respect, the obligation to produce and to showcase European and French works of art),

and on the other hand, access to less regulated video services available online, videos mainly created by users [...]

Here we are dealing with a big societal question: balance between absolute freedom of creation and public responsibility, starting with public authorities, to redefine the context in which this freedom blossoms, to the benefit of public interest.”⁸³

While the *Conseil supérieur de l'audiovisuel* (CSA) was creating *la Commission de suivi de l'usage de la TV connectée* in March 2012, regrouping representatives from public authorities—the first ever worldwide—audiovisual industry professionals and members of the civil society announced their current positions on 4 issues pertaining to the development of connected TV during a symposium held in December 2011 by the HD Forum and the HbbTV Consortium. These issues are:

- refusal to change definitions in the field that call for regulation (child protection, human dignity, consumer protection, pluralism, etc.);
- relief from specific obligations that channels must abide by (media chronology, concentration cap, circulation of works), without affecting the creators' interests;
- obligation that any company who financially profits from the exploitation of a creative project should contribute to funding said project;
- elaboration of co-regulation with industry professionals for audiovisual content on the Web.

A mission of this scale needs to be developed by experts in content production and broadcasting services on TV and on the Internet throughout Canada. The goal of this initiative would be to identify the

opportunities and risks pertaining to the development of Smart TV, consider the industrial, economical and regulatory issues for the different sectors involved in Canada along with identify the consequences on competition and viewer consumer habits.

According to Eric Schmidt, CEO of Google, TV's golden age has yet to come, and protectionist policies will have to take advantage sooner or later of the new global reality of content broadcasting. During a speech given in August 2011, as part of Edinburgh TV Festival, he said:

“It's no exaggeration to say decisions made in the next year will determine the long-term health of your broadcasting and content industries for decades to come. If economic growth is the priority of the Government your regulators need to be cautious when making new laws in this space, or risk stifling the growth of your content businesses.

“Just imagine if Facebook had to endure regulation like you face in TV. There'd have to be a separate Facebook for each region. Staff would need to be spread out—Salford would be an engineering hub. There'd be rulings to enforce diversity of wall posts, with quotas for religion and education. [...]”

“The Government should put innovation front and centre of their regulatory strategy. TV is going global and transforming in form. This new era, where innovation and speed are paramount, has parallels to the Internet. To compete on the world stage, your content businesses need the freedom and legal framework to behave more like Internet companies. The starting point for every new piece of legislation should not be ‘how do we regulate this’ but ‘how do we protect the space needed for innovation’.”⁸⁴

⁸³ <http://www.culture.gouv.fr/mcc/Espace-Presse/Discours/Discours-de-Frederic-Mitterrand-prononce-a-l-occasion-de-la-cloture-du-Colloque-sur-les-TV-Connectees>

⁸⁴ <http://www.guardian.co.uk/media/interactive/2011/aug/26/eric-schmidt-mactaggart-lecture-full-text>



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The publisher of The ABCs of connected TV, has also created various other products for media professionals.



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