

from the industry



of HbbTV
By HbbTV Association

The Hybrid Broadcast Broadband TV (HbbTV 1.0) specification successfully combines TV and Internet.



Happy Birthday, Red Button! In June 2010, ETSI adopted a specification that would change the viewer experience forever - HbbTV 1.0 or Hybrid Broadcast Broadband TV. This standard is devoted to the development of web applications on TV screens designed to produce a seamless combination of TV and internet streaming. HbbTV is a global initiative aimed at harmonising the broadcast and broadband delivery of entertainment services to consumers through connected TVs, set-top boxes and multiscreen devices. In just ten years, the HbbTV standard has rapidly progressed.

The Red Button on the remote control, the smart on-screen dialogue and the distinctive voice command have now conquered living rooms all over the country.

Our relationship with television has changed dramatically over the last ten years. It is not just the way we interact with the hardware itself but our viewing habits have also evolved; the way we consume content has altered beyond recognition. It is easy to forget how advanced it was to rewind a programme to the beginning at the touch of a button. Pulling up a documentary or a concert when there

Three elements form HbbTV

HbbTV defines as few new technical elements as possible. Instead, it draws on existing elements, which are divided into three categories:

CE-HTML: A specified HTML profile for consumer electronics. It optimises the display of HTML/Java pages on TV sets. For example, it allows remote control navigation and larger fonts optimise the readability of the content on the TV screen, even from greater distances.

Open IPTV specification: Published in January 2009, this allows the integration of CE-HTML into a DVB environment e.g. integration of the TV picture into an HTML environment, switching of TV and radio channels, scheduling of recordings and use of DVB metadata.

DVB standard: A special standard (ETSI TS 102 809) defines signalling and transport of interactive services by embedding a URL in the DVB data stream for hybrid broadband/broadcast environments. The Application Information Table (AIT) plays an important role. This is included in the Programme Map Table (PMT) of the respective DVB channel. It enables auto-start, switching to apps or streaming events.

is nothing on terrestrial, or linear TV was unheard of in 2008. But we were still miles away from this with the rather low-key conceptual forerunner of HbbTV, the MHP standard.

HbbTV allowed the interaction of TV and internet and the use of content from both without media disruption and it soon became part of everyday life in front of the flat screen. The ubiquitous red button, allowing consumers to access catch-up services, became an essential consideration when buying a new TV. The Red Button was the consumer term for HbbTV and its rapid take-up into common parlance just shows how successful and rapid this transition occurred, without us really noticing.



Six lines of development

HbbTV development took place on different levels. In pursuit of the goal of a uniform, worldwide standard, six lines of development took place which were fundamental to progress in the development and expansion of HbbTV:

1. Development of a future-oriented and future-proof standard.
2. Excellent testing opportunities for specification users (e.g. TV manufacturers, content providers).
3. Expansion of the device base and distribution infrastructures (DVB, IP; smart TVs, set-top boxes, mobile devices and, most recently, the OpApp).
4. Optimising content production for HbbTV applications.
5. Expansion of interaction (remote control, screen dialogues, speech).
6. Targeted advertising.

These were fundamental to the growth of HbbTV. The main supporters in the beginning were the German broadcast technology institute, Institut für Rundfunktechnik (IRT) in Munich, and French partners. Eventually a dedicated industry body, the HbbTV Association, became a vital driving force.



In November 2010, IRT hosted the fourth HbbTV Interoperability Workshop

Universal Launcher

In the lead-up to its tenth anniversary, HbbTV has been stepping up the pace. In September 2019, IRT presented the “Universal Launcher”, an optimised process which enabled information and offers to be ‘pushed’ to a mobile device via an HbbTV application. Previous methods required either cloud services in the background or proprietary manufacturer apps, but the “Universal Launcher” could be used across all channels and only required a device connection via the home network.

Addition to Red Button: Replay via Blue Button

Around the same time, ARD Play-Out Center launched the ‘Replay’ function on the rbb TV channel.

This meant that viewers could simply press the blue button on the remote control to start the programme again from the beginning. “Replay” can also be used for programmes which are not available on catch-up services. Technically, the function is based on a DASH live-stream, from which the segments are kept available on the CDN for more than two hours and which start at the correct position via an HbbTV application.

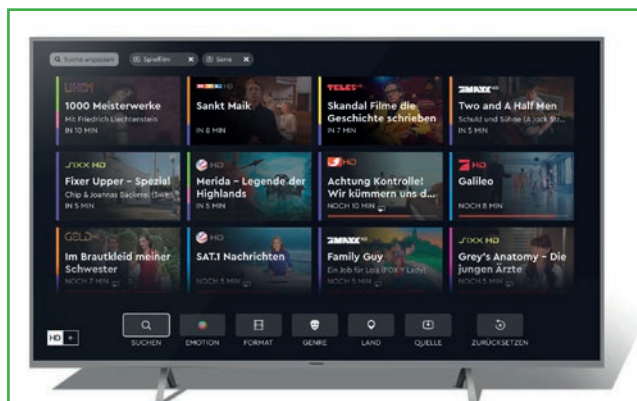
The DVB-I standard recently published by DVB, which allows internet live-streams on the TV set to be accessed just as easily via the channel list as conventional broadcast channels, caused a stir among experts with a first demo at IBC in Autumn 2019. At the HbbTV Symposium in November 2019, IRT showed a DVB-I demo, together with TARA Systems, based on the regular ARD live-streams and integrating ARD’s HbbTV services.

Targeted advertising

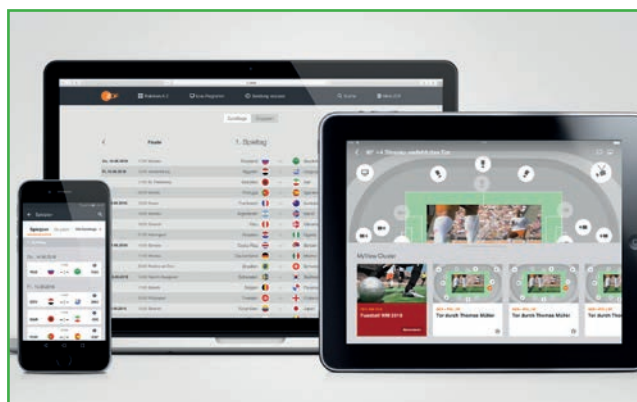
The start of 2020 saw another milestone - a key long-term aim of the founding fathers of HbbTV - when the HbbTV Association published the specification for Targeted Advertising (HbbTV-TA).



At Media Days Munich in October 2013, the first integration of HbbTV into an IPTV platform was showcased



Panasonic launched, in March 2019, the first commercial deployment of the HbbTV Operator App



(ZDF) World Cup Russia



A demo based on the Astra/IRT-Specification (pre HbbTV)



Successful launch of addressable TV format SwitchIn Masthead for pilot customer, Opel

“The specification combines the power and reach of traditional broadcast TV with the personalisation and targeting features of the digital world,” commented Vincent Grivet, Chair of the HbbTV Association.

Background targeted advertising

The HbbTV-TA specification, initiated in collaboration with DVB, enables broadcasters to provide specific audience groups with customised advertising during commercial breaks, where the ‘normal’ advertisement on the TV channel’s conventional broadcast feed is replaced on a screen-by-screen basis with a specific targeted advertisement. The addressable TV capabilities of the new specification also enable personalisation and localisation features, which greatly improve accessibility options for people with vision or hearing impairments.

At the same time, DVB released its targeted advertising specification which complemented the HbbTV-TA specification. It provided a standardised way of signalling the advertisement substitution opportunities in the live TV broadcast.

128 new tests for optimised compliance verification

In April 2020, a new version of the HbbTV Conformance Test Suite was launched under the name v2020-1. It comprises 2,586 test cases in total, including 177 tests for the new features in HbbTV specification v2.0.2. This is an increase of 128 tests over the previous version v2019-3 of the Test Suite.

The HbbTV Conformance Test Suite is an important tool for device manufacturers to verify compliance of their products with the most current HbbTV specifications and their new features. The Test Suite is available through one of the registered HbbTV test centres as well as to HbbTV members for use in their own facilities.

Driver of next-generation television

Without even realising the progress that’s been made, millions of television viewers now press the Red Button every day. In a relatively short space of time, it has become just as commonplace as using OTT services. By combining broadcast and broadband, HbbTV has actually made television future-proof. The standard has become established practice in over 30 countries, mainly in the European market. Around 80 industry

players work together in the HbbTV Association to further promote open standards for the distribution of interactive TV services over broadcast and broadband networks.

"The annual Symposium of the HbbTV Association is a meeting point, indicator and source of inspiration for the industry, which is facing growing competition from streaming services for viewers", summarised German trade magazine, *Infosat*.

In the meantime, OTT services are now very much part of viewers' everyday lives. Whether HbbTV and OTT are competitors or partners is a question that is becoming increasingly important. Linear TV remains the dominant force, for now. Arguably, HbbTV has made linear TV competitive.

Just like the mobile phone, which can also be used for making phone calls, TV can now also be used for watching linear TV. The HbbTV standard plays a key role in this. Its dynamism and innovative strength will determine how this development continues.

Ten-year anniversary for HbbTV

To mark its tenth anniversary, a special website provides a unique insight into the development of HbbTV, challenges and milestones. The microsite can be accessed via the HbbTV homepage (www.hbbtv.org) or directly via www.hbbtv.org/10-year-hbbtv-anniversary-special

It offers historical material (such as videos, images, presentations and press releases) that chronicle the development of the open industry standard for interactive services, which significantly enriched television more than ten years ago.



Contact

The HbbTV Association, a global initiative dedicated to providing open standards for the delivery of advanced interactive TV services through broadcast and broadband networks for connected TV sets and set-top boxes, is celebrating its ten-year anniversary. For further details, please see <https://www.hbbtv.org/10-year-hbbtv-anniversary-special/>



The HbbTV annual Symposium in Athens in 2019



HbbTV Association Chair, Vincent Grivet



German regional broadcaster, RBB, published an HbbTV Social TV app



Broadband Journal was distributed at the HbbTV Symposium in Athens (2019)