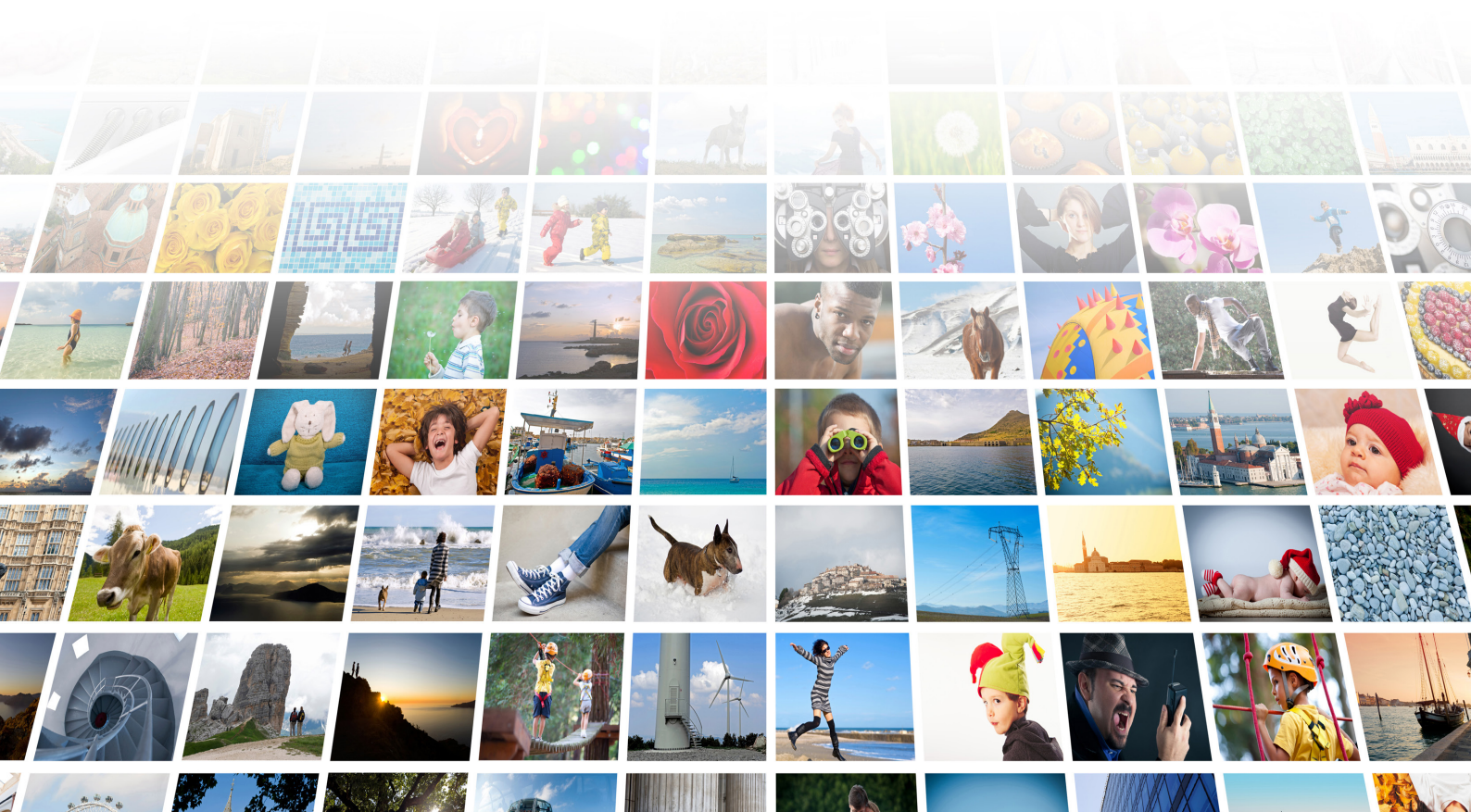




# HbbTV Services, Solutions & Devices at IBC 2017





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## About HbbTV

HbbTV (Hybrid Broadcast Broadband TV) is a global initiative which was, and continues to be developed with the aim of harmonising the broadcast and broadband delivery of content through connected TVs, set-top boxes and multiscreen devices. It is a dynamic industry standard which has been adopted in 28 countries to date (September 2017) due to it being an open and business-neutral technology platform that is flexible and has growing commercial capabilities.

The HbbTV Association consists of industry stakeholders from a wide range of organisations around the world. By working together, they share knowledge and market experience to ensure specifications continue to meet market requirements while supporting innovation for the delivery of future TV services.



The HbbTV specification was developed by industry leaders to effectively manage the rapidly increasing amount of available content targeted at today's end consumer. It is based on elements of existing standards and web technologies including OIPF (Open IPTV Forum), CEA-2014 (CE-HTML), W3C (HTML etc.) and DVB Application Signalling Specification (ETSI TS 102 809) and DASH.

HbbTV can work with either a broadcast or an IP link although it is most powerful when in a connected environment with a combination of broadcast and broadband networking.

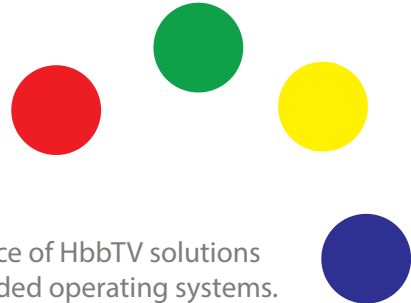
There are some exciting developments in HbbTV at this year's IBC and this document is intended to give you an overview of what to expect from this exciting technology in the coming months. Additionally, the HbbTV Association will be giving demonstrations on the DVB stand.

## HbbTV Demo - Stand 1.D81 (DVB Stand)



# Access

Stand 14.D14



ACCESS showcases its industry-leading NetFront Browser family, providing a true choice of HbbTV solutions based on Chromium or Webkit engines, available for Linux, Android and other embedded operating systems. Browser Software Development Kits (SDKs) are available for HbbTV 1.5 and HbbTV 2.0.1, enabling the provision of companion applications, second screen experiences and multiscreen solutions. Support is also available for browser based encrypted media extensions (EME) for HTML5 based premium video services. Freeview Play support, which leverages HbbTV 2.0.1 and other standards such as DIAL, is also available for the Chromium based NetFront Browser BE and the WebKit based NetFront Browser NX, making the ACCESS Browser family the most comprehensive solution available for the widest range of chipsets.

ACCESS NetFront Browser solutions are the most widely deployed commercial embedded HTML engines in the world today, shipped in over one and a half billion devices around the world, including digital TVs, set-top boxes, mobile phones, games consoles, e-readers, and much more.

The ACCESS solutions portfolio also includes ACCESS Twine, an innovative multiscreen platform that provides uPnP media distribution, device provisioning and secure remote access for home security and video applications. ACCESS can be found at booth 14.D14 and we would be very happy to meet and discuss our solutions.

# Anglatècnic

Stand 14.P13 (Content Everywhere)



Anglatècnic is a company founded in Barcelona in 1999 specialising in the engineering and development of software systems for the broadcast sector, implementing and integrating its own solutions for content insertion and broadcast monitoring in many TV stations and broadcasting companies. At IBC we will be presenting one of our main lines which is "Accessibility and Data in TV", a modular suite for the creation and cataloguing of contents with its corresponding broadcast in the DVB signal, allowing TV stations to offer accessibility services to its programmes and send additional contents to its audience via HbbTV technology. At our booth we will also demonstrate HbbTV signalling and show on a smart TV our HbbTV launcher which links to several HbbTV applications, some developed by Anglatècnic and others belonging to suites of HbbTV providers such as Sofia Digital and Castoola.



# DOTSCREEN

Stand 2.B39



DOTSCREEN is a leading multi-screen app developer and publisher, as well as a UI specialised agency. With headquarters in France, the company has offices in Germany, Spain, Nordic Regions, USA & Singapore.

DOTSCREEN has completed over 300 video applications (TV Everywhere, TVOD/SVOD/AVOD, replay, EPG, news, sport, music, radio). Those applications are available for smart TV (Tizen, HbbTV, Orsay, WebOS), OTT boxes (Roku, Apple TV, Android TV), set-top box, game consoles (Xbox, PlayStation), smartphone and tablet (iOS, Android, W10), connected watches, car radio and fridges.

Our customers include prominent pay TV operators (Vodafone, Orange, Freenet TV/Media Broadcast, TDC, Virgin Media) and TV/VOD companies (HBO, Fox, Turner, Discovery, ESPN, Beinsports, TF1, Eurosport). Our HbbTV customers are Media Broadcast, Fransat, TF1, France Télévisions, SVT.

Our apps have been integrated with numerous back-ends & OVPs (Neulion, VO, Comcast Technology Solution, Kaltura, Adobe, Accenture, Arkena, CGI, Alpha Networks, Conax, Nagra).

At IBC, we will be showcasing our suite of HbbTV apps comprising a full UI, VOD, Catch-up TV, EPG, radio, music, weather, news. It is proposed under licence to television channels and digital operators.

## DTG



DTG Testing is the DTG's independent and not-for-profit ISO 17025 accredited test lab and a registered test centre for HbbTV conformance testing. Providing testing, testing development and training services across the world including UK Freeview Play, Ghana, New Zealand, and South Africa and we are actively working on 700 Clearance. DTG Testing is an active member of HbbTV, chairing the HbbTV Test Group, acting as vice-chair of the Certification Group and appointed to the Steering Group, as well as supporting the development and maintenance of the HbbTV Test Suite. Our team of professional test developers and test engineers supply productive and cost efficient test management with the highest levels of service and support. For more information please contact [customerservices@dtg.org.uk](mailto:customerservices@dtg.org.uk).

## Eutelsat

Stand 1.D59



Eutelsat is presenting the latest version of its Sat.tv app at IBC 2017. Sat.tv, a smart programme guide available for tablets and smartphones, now runs on connected TVs using the HbbTV standard.

Sat.tv helps viewers browse through hundreds of free channels broadcasting from Eutelsat's HOTBIRD and 7/8° West video neighbourhoods, and track their favourite programmes. This new-generation smart programme guide is designed to enrich the viewer experience and represents a new way for free-to-air satellite channels to engage with their audiences.

Principle features include access to all programmes broadcast by channels included in the app, with the option of searching by time, channel or programme type. Viewers can save their preferences, enabling the recommendation engine to suggest programmes that match individual interests. Through the addition of the HbbTV standard, viewers equipped to receive channels through HOTBIRD or from 7/8° West can access the programmes they have selected or recommended programmes directly on their connected TVs.

Eutelsat is one of the world's leading and most experienced operators of communications satellites. The company provides capacity on 39 satellites to clients that include broadcasters and broadcasting associations, pay-TV operators, video, data and Internet service providers, enterprises and government agencies. With ubiquitous coverage of Europe, the Middle East, Africa, Asia-Pacific and the Americas, Eutelsat's satellites enable video, data, broadband and government communications to be established irrespective of a user's location. For more information please visit [www.eutelsat.com](http://www.eutelsat.com).

# IRT

Stand 10.F51



IRT has been one of the main founders of the HbbTV initiative, and since then plays a key role within showcases, service prototyping, consulting & application testing, interoperability workshops and intensive seminars for HbbTV and HbbTV 2. IRT demonstrates at IBC the latest HbbTV 2 prototype services enabling Addressable TV & Target Advertising in broadcast streams and Multiscreen Applications including synchronised playback of AV content on screen and mobile devices. Our experts are open to discuss latest HbbTV topics including EBU-TT-D subtitling with you. If you are planning to start or expand HbbTV 1.5 or HbbTV 2 activities you may be interested in attending one of our International Intensive Seminars on HbbTV for Content Providers, Network Providers and Application Developers or individual consulting services.



## Eurofins Digital Testing

Stand 5.B45



Eurofins, on stand 5B45, is showcasing some of our extensive portfolio of testing and QA solutions. Read more about the demos you'll find on our stand below and get to see them close up - or discuss your own project - by booking a meeting with our knowledgeable team. We'll be showcasing demos of:

TestWizard, the industry-leading end-to-end test automation solution, supports testing of mobile devices, web, set top boxes and SmartTV. Having recently released version 2.2 (which includes an advanced reporting module) the TestWizard solution can be integrated with third party systems such as test case management systems, defect trackers, operation monitoring systems, continuous integration service, data analytics tools and more. Come along to booth 5B45 for a closer look!

Eurofins can help operators roll out 4K and HDR services, from making sure their CPE work properly with an installed base of 4K HDR TVs, via packaged test materials and testing services including verifying interoperability over HDMI, to validating service signalling, to achieve the promised HDR quality experience for customers. Furthermore, the Eurofins-backed 4K HDR Ultra HD Logo provides assurance to consumers, as well as content producers, broadcasters and manufacturers, that the level of image quality promised by the technology will be effectively delivered and reproduced on compliant devices that display the Logo.

Eurofins is developing an initial ATSC 3.0 Compliance Test Suite for manufacturers targeting this important new standard for broadcast and broadband television, which has already deployed in Korea and is undergoing field trials in the United States. This demonstration will feature playout of example ATSC 3.0 compliance test streams to a TV; including ATSC 3.0 compliant ROUTE/DASH packaged audio and video, over ATSC 3.0 "Physical Layer" RF via ATSC 3.0 modulator.



## Fraunhofer FOKUS **Fraunhofer** Stand 8.B80 FOKUS

The FAMIUM DAI Service is an end-to-end solution for ad-insertion in MPEG-DASH and HLS. Acting as a delivery middleware, it wraps the complexity of the ad-insertion process into easy to integrate tools, which are manageable through the FOKUS Stream Scheduler. The FAMIUM DAI Service has support for ad signalling mechanisms like SCTE35 and ad server standards like VAST, VPAID and VMAP. Our tools can be used to target different platforms, including HTML5 browser, HbbTV 1.5/2.0 devices and native DASH and HLS player running on e.g. Android, iOS, FireTV or Chromecast.

The Cloud-based 360° Video Playout allows the viewing of high quality 360° videos on devices with constrained capabilities such as HbbTV. Usually the delivery of such video material consumes a large bitrate and results in a considerable processing load to perform the geometrical view projection and rendering. Field of View Adaptive Streaming addresses both aspects and reduces the required bitrates and processing resources by rendering the field of view in the cloud in advance and by streaming only the selected field of view to the client. The solution also supports synchronisation across multiple TVs and other devices (even mixed) so that a shared and extended experience is possible.

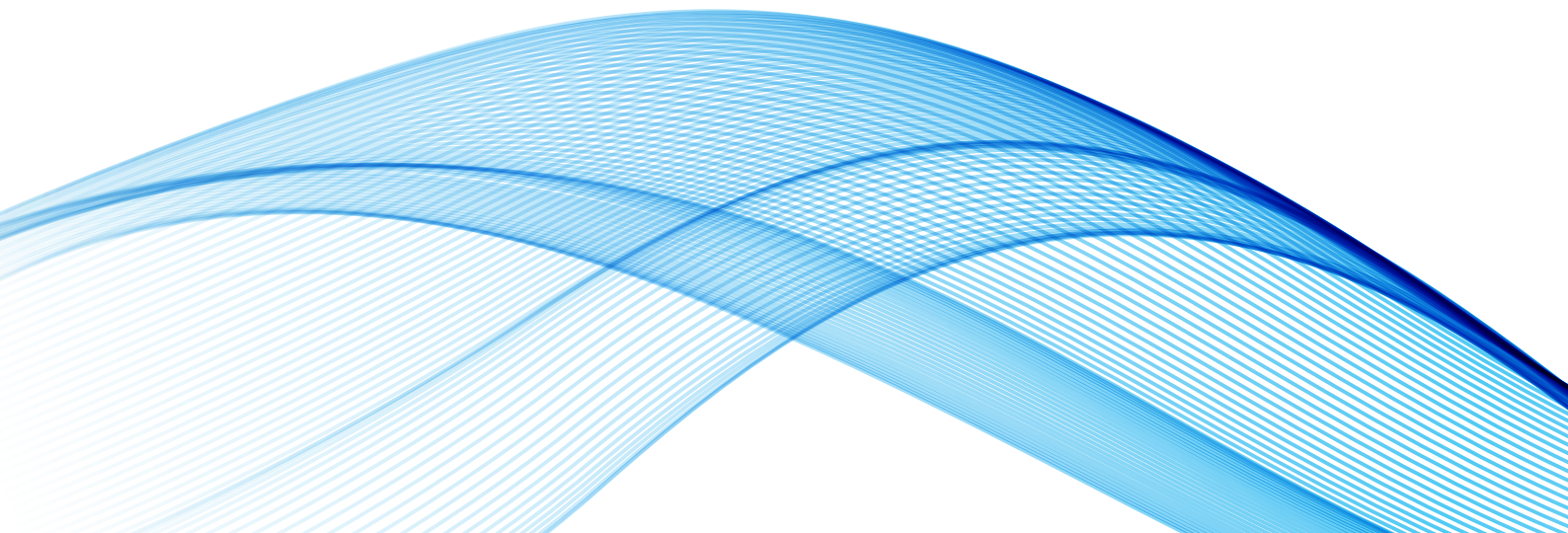
## iWedia Stand 5.B40



iWedia, a leading provider of software components and solutions for TV devices to Pay TV service providers and Consumer Electronics manufacturers, showcases its Teatro TV Browser at IBC 2017. Based on Blink, Teatro TV Browser gives support to HbbTV2 as well as to Freeview Play and to a wide range of TV web sites and portals. Pre-integrated with Teatro CI Host Software (1.4 compliant), it is available for both Linux and Android TV. It comes with a full implementation of the HbbTV plug-ins relying on the target OS which reduces dramatically the integration process. It is proposed either as a stand-alone component or as part of our complete STB software solutions for Linux (Teatro-3.0) and Android TV (Teatro-3.5).

## Opera TV Stand 14.A20

Join us at IBC to discuss latest development in HbbTV and our contribution to the latest release. Opera TV is the market leader in enabling the TV industry's transition to OTT. The Opera TV portfolio powers a rich UI and OTT experiences on tens of millions of new Smart TVs, set-top boxes, Blu-ray Disc Players and chipsets deployed each year by more than 60 customers. The Opera TV ecosystem spans the Opera TV Store app platform with hundreds of entertaining apps tailor-made for TV, the Opera Devices SDK for creating and rendering HTML5-based user interfaces including optional modules to enable HbbTV, the Opera Media Streaming Module, to manage the rapidly changing global OTT streaming requirements, and the Opera TV browser for browsing the full web. Opera TV offers solutions for OEMs, pay-TV operators, broadcasters and content publishers. Visit [www.opera.com/tv/](http://www.opera.com/tv/) to learn more.



## RT-RK

Stand 5.B32



At the exhibition, RT-RK, a market leading hardware and software design house focused on consumer electronics, communications and multimedia, will be showcasing its HbbTV Test Framework comprising Test Harness and various test automation modules. RT-RK excels at automation in testing of multimedia devices and provides testing services to all the players in the development and production chain.

Developed under a contract granted to RT-RK by the HbbTV Association, the HbbTV Test Framework covers a wide collection of test cases belonging to the official HbbTV 2.0 test suite, backward compatible with the previous HbbTV test specification versions. In addition, as an integral part of the test suite, RT-RK delivers Test Harness which provides interfaces for manual/automatic test execution, test development and debugging of newly developed test cases, and customisable reporting. The HbbTV Test Framework is integrated within the RT-RK testing tools for test management and test execution (manual and automated): Intent+, the test management system, and RT-Executor, the automated execution tool.

This year we will also present Test Suite for 4K STB testing, Android STB test suite, test solutions for R&D and QA departments (Functional, Performance, Regression and Stress testing), solutions for Telecom operators and repair/diagnostic facilities: Screening/Diagnostic in a multiple STB test system (ProScreen) and Field Monitoring System (ProVision), INTENT+ test management system with remote execution and monitoring capabilities (through intranet or Internet), and Picture Quality Measurement for live video analysis and artefact detection.

## Sofia Digital

Stand 5.B68



Sofia Digital, a pioneer of hybrid TV solutions and Teleste Corporation, a leading provider of video and broadband technologies and related services, will showcase at IBC2017 in Teleste's booth 5.B68 Sofia Backstage® integrated with Luminato head-end platform open application module. The extension enables building of modern value added functionalities and OTT applications for TV service operators. Example applications include Rich EPG, VOD libraries, operator's application portal, info services, TV subscription self-provisioning and "red-button" interactivity.

Sofia Backstage® is designed to manage, integrate and generate value added TV services and applications to create more value into the TV operator's network. With Sofia Backstage® integrated to the Luminato application module, existing and new customers can enjoy an integrated solution for creating new TV services and client applications based on HTML and HbbTV technology.



# Suitest

Stand 14.E05



Suitest is an object-based, codeless test automation tool for HbbTV and other big screen platforms. Our revolutionary set of tools provide a super-easy way for creating and running end-to-end test automation scenarios without writing a single line of code.

Your QA department will love our state-of-the-art visual test editor and our powerful testing tools will help you achieve great test coverage in a fraction of time.

Suitest is able to run test cases on 100+ local and remote HbbTV devices in parallel. Your team will get meaningful results in minutes even for huge test bases. Our reusability features dramatically reduce your maintenance efforts and make testing multiplatform apps really easy. Write the test once. Run it on any platform, such as HbbTV, Freeview Play, Samsung Tizen, Samsung Orsay, LG WebOS, LG Netcast, Xbox (both native and HTML based apps), Android TV and many others.

At Suitest we have developed our own hardware control unit – the CandyBox. This neat little box operates TVs and set-top boxes through their infrared port. Control any TV or set-top box located anywhere in the world from a central location. This opens new possibilities for your multi-office teams since they are able to use devices in remote offices just as easy as if they were on their desk.

We have a free plan to get you started. Sign up at [www.suite.st](http://www.suite.st) and take Suitest for a spin. Fancy a chat? Drop us a line at [hello@suite.st](mailto:hello@suite.st) and we will get right back to you.

# Vestel

Stand 1.D30

# VESTEL

Vestel are exhibiting at IBC2017, Hall 1, stand D30 to showcase the latest lines of digital satellites, terrestrials, cables, IP and OTT set-top box solutions, Slim TVs, Ultra HD TVs, Smart LED TVs, Hotel TVs, Educational displays, Digital signage and Video wall solutions. Leading the European market in digital products, Vestel have established agreements with the major digital television operators in Europe for the production of digital television and set-top boxes.

For more information about HbbTV,  
please visit: [www.hbbtv.org](http://www.hbbtv.org).

# HbbTV

