

## Eurofins Digital Testing – UK

Castlemead, Lower Castle Street,  
Bristol, BS1 3AG, UK  
T: +44 1179 896 100  
F: +44 1179 896 101

## Eurofins Digital Testing – Hong Kong

Unit 609, 6F, Lakeside One, Phase Two  
Hong Kong Science Park, Shatin,  
New Territories  
Hong Kong  
T: +852 3426 9695  
F: +852 3015 8655

## Eurofins Digital Testing – Belgium

Wetenschapspark 7  
B-3590 Diepenbeek  
Belgium  
T: +32 11 303 600  
F: +32 11 303 690

W: [www.eurofins-digitaltesting.com](http://www.eurofins-digitaltesting.com)  
E: [DigitalTesting@eurofins.com](mailto:DigitalTesting@eurofins.com)  
Twitter: @EurofinsDigital



Digital Testing



# MEDIA DELIVERY SOLUTIONS

HbbTV App Testing Solutions

## Why Eurofins Digital Testing

Eurofins Digital Testing is the world's leading end-to-end Quality Assurance (QA) service provider for Digital TV Operators and device testing specialists, operating globally with test lab facilities in the UK, Belgium and Hong Kong. We provide specialised on-site test resources, testing tools and services to validate digital media delivery systems and device conformance for multiple standards and operators across the world. Eurofins Digital Testing was formed from the merger of Digital TV Labs and Testronic Labs and is part of the Eurofins Group. Eurofins has a network of more than 200 laboratories in 36 countries and has over 17,000 employees worldwide. Eurofins Digital Testing delivers complete testing solutions to manufacturers, broadcasters, operators and related media and device supply chains, covering terrestrial, satellite, cable, OTT and IPTV delivery. This includes conformance and certification testing for standards and operator regimes, as well as the provision of bespoke media delivery solutions.

Eurofins Digital Testing is an active member of, or provides solutions for, key technologies and standards such as CI Plus, DVB, DASH-IF, Dolby, USB, HbbTV, Wi-fi, HE-AAC, HEVC, RDK, UPnP, DLNA, MirrorLink and W3C.

# HbbTV App Testing Solutions

The latest HbbTV enabled TVs and Set Top Boxes provide a powerful application platform for broadcasters and operators to provide a compelling and interactive user experience. With adoption growing rapidly and industry data suggesting increased HbbTV enabled device availability, broadcasters, operators and service providers are presented with an exciting opportunity. However, there are a number of challenges for HbbTV App developers, and Eurofins Digital Testing has range of solutions to assist, in order to maximise user engagement and revenue streams.

## HbbTV Application Development Challenges:

**HbbTV Platform Fragmentation:** There is variance in screen sizes, middleware, browser capability, audio and video codec support and DRM implementations (to name a few) between manufacturers, as well as within a given manufacturers product range. Additionally there is variance in performance and level of conformance between new and legacy models.

**TV Browsers Are A Subset Of PC/Tablet:** Browsers deployed within a TV or STB environment are not as flexible and feature rich as those used in other devices such as PC's and tablets.

**Specific APIs:** Broadcast centric devices have a limited and specific set of APIs, that differ to other device groups. Support for, or consistency of implementation of such APIs also differ between manufacturers.

**HbbTV (DVB) Launch Mechanisms:** Developers require an understanding of how applications are launched from the linear DVB broadcast domain.

**HTML Variation:** HbbTV utilises a specific subset of CE-HTML and HTML5.

**Development Tools:** The availability of development and debugging tools is limited for HbbTV platforms in relation to other device types.

**User Expectation:** Viewers expectation of a TV experience differs to that of other platforms.

## Why Is Testing Important?

For most organisations, the TV app is the conduit for a range of services and revenue streams and is mission-critical. Lean-back consumers have zero patience, meaning any app malfunction will result in user churn to another service. It also significantly reduces customer re-engagement and brand impact.

Many app providers will either develop their apps internally or outsource to external developers. Too often however, the same organisation will be responsible for the specification, development and testing cycle, which equates to them effectively marking their own homework. Test coverage may be incomplete and unpredicted user journeys may not have been tested. When the development phase over-runs, it's usually the testing cycle that gets cut, resulting in quality and cost issues further down the line.

For typical operators and broadcasters, HbbTV testing is not a core competency and cutting edge testing practices move as rapidly as software engineering. As a result, keeping up to date with best practices requires significant investment in time, labour and money.



"We understand the extensive challenges faced by HbbTV Application Developers and we can help."

Eurofins Digital Testing can provide a best-in-class HbbTV app testing service with a range of flexible business models to lower your costs and enhance the consumer experience.

# HbbTV App Testing Solutions

Eurofins Digital Testing offers a comprehensive suite of services delivered by engineers with extensive expertise in the HbbTV domain. These include:

**Validator:** A cloud based analysis tool specifically designed for use by app developers to verify HbbTV applications. Validator checks that applications are only using CE-HTML/JavaScript/CSS which is supported by the HbbTV Specification, usage of OIPF JavaScript APIs and any files, including media objects, referenced by or contained within the application are accessible.

**Test Planning:** We can aid in setting objectives and success criteria, tool selection and requirements validation.

**Test Execution:** We provide an extensive range of services including unit, interoperability, performance, user journey, usability and security testing.

**Media Validation:** Guidance on codecs, formats and streaming technologies such as use of HbbTV specific MPEG-DASH profile to future proof encoder licensing and implementation.

**Training:** We provide overview and in-depth HbbTV technology and HbbTV app development training and knowledge transfer.

**HbbTV App Lab** We have a huge collection of HbbTV devices for interoperability testing.

**On & Off Site Support:** Our engineers can be made available both on and off site to meet project requirements and timescales.



**Access to Manufacturers:** We enable your applications to be integrated into Ligada iSuite for HbbTV, Eurofins Digital Testing market leading HbbTV Test Harness and test suite, utilised by 70%+, by market share, of TV and STB manufacturers, providing a mechanism by which vendors can test against deployed apps and provide feedback.

**Service Infrastructure Support:** We can aid in ensuring your back-office application, streaming and web server infrastructure can correctly service your apps.

**Ligada iSuite Performance Test Suite:** This tool provides key performance metrics on a specific HbbTV platform such as animation, DOM performance, AVControlObject stability and MetaData performance. Ligada also supports a robustness test suite.

**Sengo Automation:** Sengo enables the automation of any HbbTV app with minimum scripting effort within the well deployed Selenium RC test framework. Requiring only a low-cost DVB modulator, scripts can inspect the DOM allowing access & verification of visible and invisible web element properties

