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## The Convergence TV Project Demonstrates full IP Hybrid Delivery of SHVC UHD TV over DVB-T2 at IBC 2018

*From 14 to 18 September 2018 / At the RAI Convention Center / Hall 2 - TeamCast- Stand 2.B51*

At IBC 2018, the **Convergence TV project** demonstrates the delivery of a scalable UHD TV service using a DVB-T2 broadcast path for distributing a regular HD service (2K) and an OTT broadband path for **enhancing the service from HD to UHD TV (4K)**.

Thanks to the use of scalable HEVC (**SHVC**) for video compression, **no simulcasting is used**. The DVB-T2 broadcast path delivers the HD signal while the OTT broadband path delivers only the enhancement signal from HD to UHD. The demonstration illustrates a business case where regular broadcast HD service delivery (2K) can be enriched to UHD (4K) - and monetized - through an optional broadband connection.

This demonstration was first made at the NAB show 2018 using the features of the ATSC 3.0 specification and its native **hybrid delivery** mechanism. The Convergence TV consortium received the **Technology Innovation Award** from the **National Association of Broadcasters** for this world's first demonstration.

At IBC 2018 the demonstration uses the DVB-T2 Physical layer for the broadcast distribution path and keeps all of the higher layers of ATSC3.0 for both the broadcast and broadband paths.

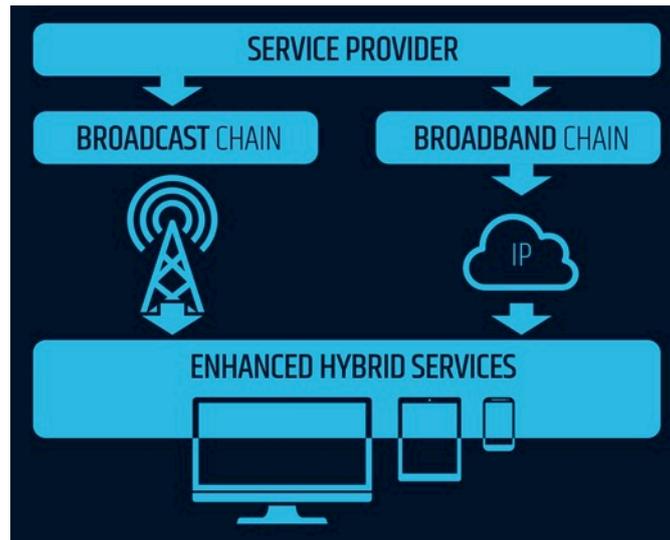
It shows that the native hybrid IP delivery structure of ATSC3.0 can also work with other system components such as the DVB-T2 PHY layer, provided this latter is combined with the GSE or MPE layers for IP encapsulation.

Both paths are fed from a **single SHVC encoder** providing the base layer signal to the broadcast chain and the enhancement layer to the broadband chain.

The prototype receiver developed by the project shows the service enhancement. This **hybrid receiver** is based on a PC with an external DVB-T2 demodulator and a standard internet connection. Powered by the GPAC player and the OpenHEVC decoder, it combines base and enhancement layers and feeds a 50 inches display with either the Full HD or the 4K video.

*"We are very pleased to host this innovative demonstration of convergent IP delivery over broadcast and broadband using for the first time the DVB-T2 PHY layer, after the success of our initial ATSC3.0 demonstration at the NABshow 2018"* says **Alain UNTERSEE**, Collaborative Research Project Manager at **TeamCast** and lead of the Convergence TV project.





## About the Convergence TV Project

Convergence TV is a research project powered by five French innovative and high tech companies: **TeamCast** (lead), **ATEME**, **Broadpeak**, **Motion Spell**, **TDF** and two prestigious academic research institutes: **INSA Rennes** and **Telecom Paristech**.

The main objective of the project is to work on hybrid delivery of advanced TV services, using a broadcast delivery as mainstream and broadband add-ons for a better Quality of Experience, immersivity or interactivity. The project has chosen ATSC 3.0 as the all IP hybrid delivery system.

The Convergence TV project is sponsored by the French government and two local councils (Region **Bretagne** and Region **Ile-De-France**).

For more information: [www.convergence-tv.org](http://www.convergence-tv.org)  
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