At NAB 2018, the **Convergence TV project** demonstrates the delivery of a full UHDTV service using an ATSC 3.0 broadcast path for distributing a regular HD service (2K + HDR) and an ATSC 3.0 broadband path for **enhancing the service from HD to UHDTV (4K + HDR)**.

Thanks to the use of scalable HEVC (SHVC) for audio & video compression, **no simulcasting will be needed**. The broadcast path delivers the HD signal while the broadband path delivers only the enhancement signal from HD to UHD.

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.

Two receivers show the service enhancement. There are a **regular ATSC 3.0 TV set** displaying the basic HD HDR service and a **PC based hybrid receiver** prototype able to combine the base and enhancement layers thanks to a SHVC decoder.

The regular ATSC 3.0 TV set will show the **backward compatibility** of the approach, as a regular HEVC enabled TV set can decode the SHVC base layer without requiring specific upgrade.

This **world first** demo intends to showcase one of the exclusive features of the ATSC 3.0 system approach - the native **hybrid delivery** mechanism - which ensures quasi-unlimited flexibility for enhancing the user experience.

It illustrates a business case where regular broadcast HD service delivery (2K) can be enriched to UHD (4K) - and monetized - through an optional broadband connection.

**Samsung** supports the project by providing the ATSC 3.0 TV set for the backward compatibility demonstration. Being fully UHD and SHVC compliant, this TV set is **another world first** through its ability to display UHD services when both the base layer and enhancement layer are distributed through the broadcast path.
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).