



SATELLITE 4.0

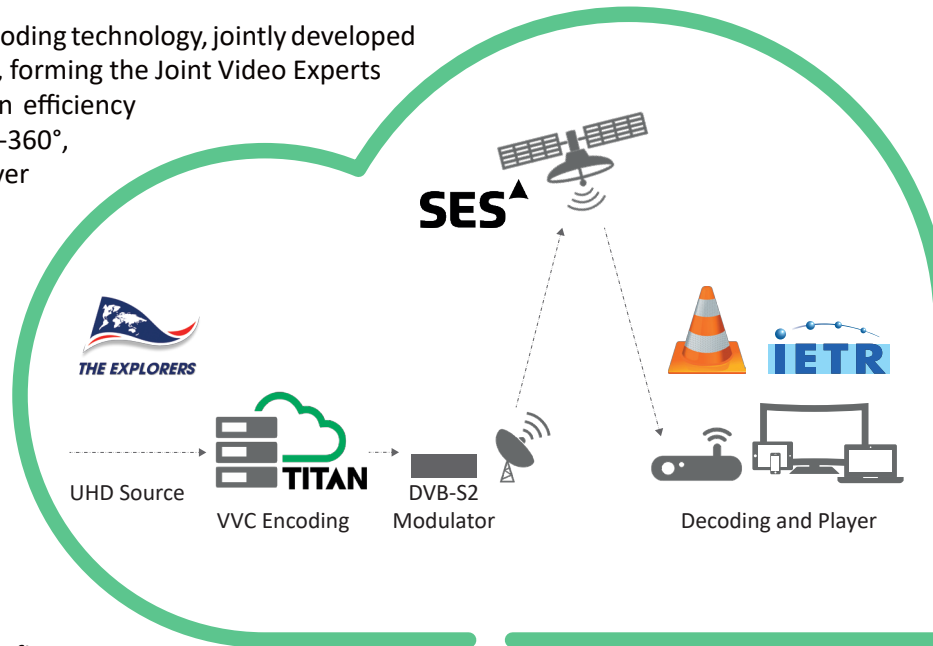
END-TO-END UHD SATELLITE BROADCAST TRANSMISSION USING VERSATILE VIDEO CODING (VVC)

Versatile Video Coding (VVC) is the latest video coding technology, jointly developed by experts from ISO/IEC MPEG and ITU-T VCEG, forming the Joint Video Experts Team (JVET). VVC improves HEVC compression efficiency by 50%, and addresses all video formats (VR-360°, 3D, 4K, 8K, HDR). Its versatility enables to cover a wide range of applications, from broadcast to OTT delivery.

In this trial, the UHDTV source is encoded with VVC, and encapsulated in MPEG-TS using ATEME video processing platform. The streams are modulated using DVB-S2 and broadcasted by SES on Astra 2E transponder, covering the whole Europe. The signal is demodulated and forwarded on IP to a VLC player that display the video thanks to the real-time openVVC decoder developed by IETR.

This trial illustrates industry readiness for first deployment of VVC-based video services, demonstrating complete interoperability across the value chain. Several standards under final stage of development have been implemented in this experiment, including MPEG-TS and VVC.

For those interested in testing the bitstreams, an experimental player is available upon request, please contact innovation@ateme.com



KEY FEATURES

- UHD VVC Encoding
- Realtime UHD VVC Decoding
- VVC Encapsulation in MPEG-TS
- DVB-S2 Satellite Transmission

This development is part of a French funded collaborative project EFIGI FUI 25 with the support of the french government, the BPI and the Region « Ile de France ».

VALUE-ADDED BENEFITS

- 
Optimize Bandwidth Efficiency
 Reduce UHD Transmission Cost with VVC
 Increased Compression Efficiency.
- 
Increase Audience Reach
 Take Advantage of DVB-S2 to Increase Audience Reach and Coverage.
- 
Improve Quality of Experience
 Provide High Quality Viewing Experience,
 Using VLC Media Player