

## Bernard J. Lechner Award Winner Alan Stein Shares Views on How Emerging Technologies Bring Broadcast to the 21st Century

Alan Stein, Vice President of Technology at InterDigital, shares insight into how the Advanced Television Systems Committee (ATSC) and technology standards are shaping emerging television and streaming viewing experiences worldwide.

# Advanced HDR by technicolor



**Maryland, Silver Spring, Oct 21, 2021 ([Issuewire.com](http://Issuewire.com))** - There is formidable competition challenging the broadcasting community. Over-the-top (OTT) streaming providers have introduced a variety of new user experiences that are forever changing viewing habits and expectations. However, there is room for broadcasters to compete effectively in this field. That is why ideas about improved viewing experiences—such as those brought to the market by Advanced HDR by Technicolor, and interactive functionality have come to the forefront in next-generation television technology.

Supporting all facets of the broadcast ecosystem, the Advanced Television Systems Committee (ATSC) develops voluntary standards and recommends practices for digital terrestrial broadcasting. The committee represents broadcast equipment, motion picture, consumer electronics, computers, cable, satellite, and semiconductor industries.

Since 2000, ATSC's highest technical honor—the Bernard J. Lechner Outstanding Contributor Award—has been awarded to one outstanding individual for their technical and leadership contributions.

At this year's Next-Gen Broadcast Conference, the 2021 award was presented to Alan Stein, Vice President of Technology at InterDigital.

## **Next Frontiers of Opportunity for Hybrid Solutions**

ATSC is exploring new frontiers of opportunity to introduce hybrid solutions that integrate over-the-air (OTA) broadcasting with OTT services that will enhance how consumers experience content. This has expanded the appeal of ATSC beyond the United States. The standards body receives inquiries from broadcast organizations around the world that have expressed interest in what ATSC 3.0 can do to address specific country requirements.

“For example, there is an effort in India to leverage ATSC 3.0 technologies to offer a ‘broadcast offload’ of mobile video. This is particularly interesting because there are regions in India that lack the cellular infrastructure to support the vast number of people currently watching video on mobile phones,” says Stein.

The glut of video traffic is creating congestion on cellular networks. Technologies included in the ATSC standards could alleviate this pressure by enabling IP video signals transmitted over the air to be received by Indian consumers' mobile devices, delivering a better viewing experience.

“Today, ATSC 3.0 includes the Scalable HEVC profile known as SHVC—which enables a base signal to be delivered with high robustness to mobile devices while simultaneously sending an enhancement signal with less robustness but high efficiency. This can be used to give HD or 4K enhancement on top of a base quality video service,” explains Stein.

## **Mainstreaming High Dynamic Range Video**

Stein is the chair of the ATSC video specialist group—designated as TG3/S41—in which high dynamic range (HDR) has been a key feature under consideration by broadcasters and consumer electronics manufacturers for several years.

“HDR is now here and well-established. It is available on televisions and in over-the-air hardware. Advanced HDR by Technicolor technology, in particular, has emerged as a unique solution targeting non-HDR and HDR devices with a single transmission. This is important for broadcasters because it is complicated and costly to deliver simulcast services,” says Stein.

Advanced HDR by Technicolor, he explains, enables broadcasters to deliver HDR to HDR devices using a standard dynamic range (SDR) compatible signal with metadata to upconvert the content. It is a strategy that allows a single stream to serve both HDR-capable and legacy devices. It is included in the ATSC 3.0 standard and is the most widely used HDR technology in the U.S. broadcast community.

“As the world continues to get connected and feel smaller, there will be ever-increasing ways for people to collaborate and integrate through technology, which is truly exciting,” says Stein. “That is the focus of our work at ATSC. It is why it has been such a privilege to be associated with an organization that has attracted the excellent people who have contributed so much to the progress made in this industry.”



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