

BTR: Advanced HDR by Technicolor Introduces "No Compromise" Roundtrip Feature for HDR and SDR Live Productions

BizTechReports

Silver Spring, Maryland Apr 24, 2022 ([IssueWire.com](https://www.issuewire.com)) - One of the biggest challenges determining how live broadcasters utilize and deliver high dynamic range (HDR) to audiences around the world revolves around how to efficiently integrate legacy standard dynamic range (SDR) content in a technically effective and cost-efficient manner. What is needed is a superior fidelity two-way conversion process between SDR and HDR.

That is the problem statement behind a new round-trip feature that has been integrated into Advanced HDR by Technicolor, a suite of HDR production, distribution, and display solutions that leverages machine learning to maximize the image quality of any HDR format. Advanced HDR by Technicolor is a collaboration between Philips, InterDigital, and Technicolor.

"Broadcasters working in live broadcast environments — such as sporting events or newscasts — need to address the fact that infrastructure has not evolved to the point that allows HDR to easily be distributed to consumers," says Tony Bozzini, head of business development, Advanced HDR by Technicolor in a podcast interview for journalists.

Live productions, in particular, operate in very complex environments. These broadcasts often involve a variety of content formats and quality levels. Managing this broad array of content to create HDR and SDR content requires specific tools and solutions that can aggregate and manage multiple formats across new technologies and expensive legacy equipment. Effectively performing these actions is critical to producing consistent and high-quality content in both SDR and HDR.

A solution that is backward compatible and able to create both SDR and HDR without compromising the quality of images in either format is needed to deliver the best viewing experiences to consumers in a single production workflow.

Round-trip Feature from Advanced HDR by Technicolor

"Round-trip is a newly developed feature of Advanced HDR by Technicolor that addresses the complexity of live production. Because most at-home viewers still have legacy televisions, live content in SDR will need to be managed and delivered for the foreseeable future. Broadcasters are looking for ways to preserve the highest quality creative intent designed for SDR, even as HDR signals are presented to consumers who have devices capable of receiving them," explains Valerie Allie, group

director of video solutions at InterDigital.

Being able to preserve the original content creator's intent in SDR while delivering extremely professional, high-quality HDR gives consumers who have invested significantly in their new HDR TVs a truly immersive viewing experience.

"This is especially important for live broadcasts — such as sporting events and newscasts — because they compete — or compare — admirably with the new HDR visual experiences delivered in theatrical releases and through streaming platforms like Netflix, Disney+, and Amazon Prime," says Bozzini.

A Foundation for Simultaneous SDR-HDR Live Production

There are many new requirements for broadcasters to provide pristine SDR while also creating a high-quality HDR experience since most current transport mechanisms for home viewers are still largely SDR-based.

Bridging the SDR-HDR gap is a challenge that has been a major area of focus for Cobalt Digital — a company that designs and manufactures 12G/6G/3G/HD/SD conversion, throwdown, and multiviewer technology for the production and broadcast television environment.

"What the industry has needed — as adoption of HDR grows — is access to an effective round-trip mechanism that removes the complexity from the production equation," says Ryan Wallenberg, vice president of engineering, Cobalt Digital.

This approach to the challenge allows content creators to set parameters for image quality and brightness and then let the technology do the rest without degrading the quality of HDR and SDR images.

"That is why the partnership between Cobalt Digital and Advanced HDR by Technicolor is so essential. The solutions we have created enable broadcasters to manage multiple formats and quality levels to deliver SDR and HDR in a seamless, dynamic, and automated process," says Wallenberg.

With the new round-trip feature from Advanced HDR by Technicolor, Cobalt Digital has been able to incorporate a series of presets on image aesthetic parameters which can be loaded onto its cards which can then be shipped to stations or production trucks.

"Content producers can then plug these presents into the input and output signals and turn on the equipment. It provides sports broadcasters with the best of both worlds, which is important for stations that must still deliver legacy content — like syndicated shows and commercials," explains Wallenberg.

Harnessing Machine Learning to Manage Dynamic Complexity

Machine learning and automation play a major role in how Advanced HDR by Technicolor helps broadcasters manage the complexity of simultaneous SDR-HDR live productions.

"Advanced HDR by Technicolor solutions have two components. The first is Intelligent Tone Management (ITM), a dynamic tuneable solution that upconverts SDR content to HDR. It streamlines the management of brightness, contrast, and color saturation. ITM is part of our dynamic adaptation capabilities that uses machine learning to adjust live video on a frame-by-frame basis. Round-trip is an extension of Intelligent Tone Management, enabling content producers to select the settings they desire

to create HDR,” says InterDigital’s Allie.

The second component is a dynamic and tunable real-time tool that implements the ETSI SL-HDR standards to generate and deliver a single, consistent, high-quality broadcast stream starting from any mix of input content (such as live, movies, news) across a wide range of HDR formats (HDR10, HLG, S-LOG3).

“The round-trip feature is the cherry on top, allowing professionals to connect the Intelligent Tone Management Tool and the SL-HDR capabilities early in the production process,” says Allie.

These and other innovations by Advanced HDR by Technicolor are contributing to the significant progress the broadcast community is making in efforts to embrace and deploy HDR to viewers. Sinclair Broadcast Group — the largest independent broadcaster in the United States with 185 stations — has announced commitments to provide both HDR and SDR signals to viewers using Advanced HDR by Technicolor solutions and equipment by Cobalt Digital.

###

Editor’s Note: To listen to the audio interview with these executives visit: <https://bit.ly/RoundTripAudio>. To read the full Q&A with these executives visit: <https://bit.ly/RoundTripQA>

Media Contact

Lane Cooper

lcooper@biztechreports.com

4156466592

8720 Georgia Avenue

Source : BTR/MCC

[See on IssueWire](#)