Advanced HDR by technicolor

The Growing Role of HDR in System-on-Chip Manufacturing

For mass adoption of high dynamic range (HDR) to take place, all key stakeholders across the ecosystem — consumer electronics, content creation, production and broadcasting — will have to be aligned and in sync to deliver the rich experiences consumers today are demanding. Among the most critical players in this value chain are the chip manufacturers that provide the underlying components upon which rich, immersive experiences can be delivered.

To learn more about the role that the system-on-chip (SoC) community is playing in the industry's transition from standard dynamic range (SDR) to HDR, we sat down with Alfred Chan, vice president of the TV business unit and smart home business group at MediaTek and Tony Bozzini, head of business development at Advanced HDR by Technicolor. Here is what they had to say:

Q: Can you tell us about MediaTek and how HDR is creating new opportunities for your industry?

Alfred Chan: Of course. MediaTek — a Taiwan-based semiconductor company — is the global leader for TV SoCs. MediaTek currently sells TV SoCs to 95% of all retail TV brands — those sold at stores like Best Buy and Costco, as well as major retailers all around the world. Our SoCs enable all of the advanced features consumers look for when making new TV purchases. We brought 4K viewing experiences to the market and are now bringing 8K resolution to the market with our TV manufacturing partners, and we support a wide variety of operating systems.

We are very excited about HDR because we believe that HDR is an essential feature for TV manufacturers today. In fact, the top-performing — and often the most expensive — TVs are HDR TVs.

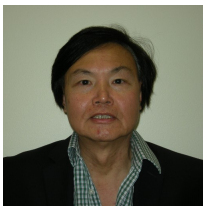
It has been encouraging to see how the rest of the industry is rising to the challenge of making HDR content available for these next-generation TV sets. Broadcasters — like Sinclair Broadcast Group in the United States — are bringing over-the-air content, especially live sports, to consumers in HDR. MediaTek is committed to ensuring that HDR is presented correctly on TV sets that support this immersive viewing experience.

Q: Can you tell me more about the broadcast side of the equation?

Tony Bozzini: We are beginning to see HDR momentum build, especially in the broadcast community. In fact, in April of 2021, the first affiliate NBC station to broadcast in HDR — a Sinclair Broadcast Group affiliate in Las Vegas — went live. Based on its success, Sinclair has already expanded HDR broadcasts to 28 stations across the U.S., with plans to expand to double the number of HDR-capable stations by the end of 2022.

They are moving forward in response to consumer demand. Consumers who buy new TV sets that contain the embedded technologies provided by companies like

Tony Bozzini, head of business development at Advanced HDR by Technicolor



Alfred Chan, vice president of TV BU, Smart Home business group–MediaTek.

MediaTek are very much aware of the elevated viewing experience offered by HDR. They get frustrated when they don't have the content to support this experience. Thanks to the work of broadcasters like Sinclair, the demand for HDR content is beginning to be met.

Chan: This is why the work that has been done to bring Advanced HDR by Technicolor to market has been so important. These solutions provide a path to an HDR future while supporting the current embedded presence of SDR-only capable TVs that are still in the market.

Before Sinclair incorporated Advanced HDR by Technicolor and introduced it to the broadcast space, broadcasters were really at a disadvantage when it came to displaying high image quality compared to the content offered by streaming companies like Netflix and Amazon, which have been using HDR10 and Dolby Vision. Those HDR technologies have not been able to support the dynamic needs of the broadcast community.

With Advanced HDR by Technicolor, Sinclair can deliver content of any sort — from news to live sporting events — that rivals the HDR viewing experience consumers have become used to from their favorite streaming providers. The difference is that Sinclair has to deliver this high-quality HDR experience without the time-intensive and costly post-production processes that go into episodic and theatrical shows.

Another exciting area of development is advertisement transitions. Because Advanced HDR by Technicolor handles a lot of automatic SDR to HDR conversions, more and more advertisers are considering the aesthetic they need to achieve to match the HDR content broadcasters are delivering to consumers. The differences between SDR and HDR content are pretty drastic, especially when viewed on very bright TVs.

The real-time support Sinclair can provide within a single complete workflow enabled by Advanced HDR by Technicolor — including advertisements — is a great development. MediaTek is very excited to support with SoCs for the new generation of TVs.

Q: You mentioned live sporting events. How is HDR affecting the broadcast of live outdoor sporting events, and what does this mean for broadcast companies' overall business objectives?

Bozzini: Live sporting events — an area that still is mostly dominated by the broadcast community — are an excellent opportunity for HDR growth and Sinclair is leading the charge.

One of the most frustrating aspects of broadcasting live outdoor events is that the lighting shifts constantly change. Sinclair utilizes Advanced HDR by Technicolor, incorporated into production-truck equipment offered by companies like Cobalt Digital, which incorporates machine learning capabilities that automatically sense light quality changes and then adjusts to deliver seamless and consistent HDR images.

This is an exciting development and sports fans are responding. In fact, Sinclair recently announced that Bally Sports Network and the Tennis Channel would be broadcast live in Advanced HDR by Technicolor. We expect these types of consumer viewing experiences to drive sales of HDR TVs.

Q: Chip manufacturers have a growing number of standards they need to follow. How does HDR fit into this equation as you develop the next generation of TVs? **Chan:** ATSC 3.0 is currently the standard that chip manufacturers focus on to support next-generation TVs. Advanced HDR by Technicolor has been included in the ATSC 3.0 standard. SoC manufacturers are in a critical position to bridge the gap between broadcasters and device manufacturers in ensuring that viewers receive the experience intended by the production teams. MediaTek is working with the teams to ensure that the Advanced HDR by Technicolor solution is properly incorporated into our chipsets so that images are properly displayed on TVs. This requires a huge amount of coordination to make sure consumers get accurate color and brightness presentation. **Bozzini:** The good news is that the ecosystem is working very closely together and these efforts are paying off. We are bringing HDR to market at an increasingly rapid pace. ###	