How Dolby and TVP are bringing next-generation immersive audio to football fans at home

TVP trial live personalised Dolby Atmos audio

Innovations in broadcast technology are continually evolving the sporting experience for fans at home. And during an incredible summer of football in Russia, Poland’s sole public TV broadcaster TVP tapped in an early goal as a champion of next-generation immersive audio technology thanks to a Dolby-backed trial. Using Dolby’s AC-4 technology, TVP was able to show how all the action of the game, from the sound of a match-winning free kick to the cheers of the crowd, can be brought to football fans at home, along with the commentary and sound format of their choice.

Dolby AC-4 is an audio compression technology that offers the highest possible audio quality at low bandwidth. With the ability to carry channel and object-based audio, the AC-4 codec can be used to create personalised experiences for viewers, and is one of the underlying technologies of Dolby Atmos.

Dolby Atmos is a next-generation immersive audio technology that was originally created for the cinema before being developed to work on home cinema equipment. The idea is to give viewers a more realistic audio experience with the sound appearing to come from every direction, even from above. Each audio element is treated as a separate object that can be moved and precisely placed around the three-dimensional space.

Making use of the immersive technology, TVP kicked off its latest trials in the summer of 2018 on the live feeds from four of the international football matches played in Russia. The idea was to transmit immersive, personalised Dolby Atmos to off-the-shelf home theatre products, making the test as realistic as possible.

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“The goal of the trial was personalisation of the broadcast audio by viewers,” explains Andrzej Bialczyk audio specialist from TVP. “We broadcast core audio with additional audio components. This gave viewers the possibility of choosing different audio formats from 2.0 to 5.1 and Dolby Atmos, adding Polish or English commentary, Audio Description, watching the match without commentary, or with pure audio from the stadium. The last case is like a free ticket for the stadium. The viewers hear exactly what they hear when they are at the stadium. What is also very important for our viewers, is giving them control of the enhanced dialogue for better intelligibility. Moreover, there was no extra work involved in post-production.”

TVP is no rookie when it comes to experimenting with new broadcast technology. In June 2018, the broadcaster introduced its first trial UHD channel and also carried out the world’s first free-to-air live transmission of Dolby Atmos by a public broadcaster.

In a test that paved the way for its subsequent live football broadcasts from Russia, TVP broadcast a friendly match on 12 June between Poland and Lithuania at Stadion Narodowy, Poland’s national stadium in Warsaw. Transmitted via DVB-T, the broadcast was available to everyone in Poland, with record viewing numbers peaking at 7 million viewers. Viewers reaction was very positive and they praised the 3D audio, saying it sounds much more natural.

Andrzej Bialczyk described the process of tackling the innovative audio trials as “fascinating”, adding, “we worked together with Dolby teams from Wroclaw and Munich which provided devices for the experiments as well as engineer support during the tests. Close cooperation with the Dolby teams was important for implementing Dolby Atmos into the existing TVP infrastructure.”

Andrzej Bialczyk, audio specialist from TVP

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It seems fairly easy and possible to simultaneously broadcasting future events using backwards-compatible stereo Dolby Digital Plus (Enhanced AC-3) as the main audio, and Dolby Atmos (AC-4) for immersive personalised audio on UHD channel.

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The broadcaster’s pioneering football trials could pave the way for personalised audio becoming the norm for live sports. As well as giving home spectators a choice of which commentary to follow, the technology could eventually enable them to focus on a certain area of the pitch at a pivotal moment of the game, such as when a penalty is being taken.

Dolby continues to cooperate with the leading broadcasters to help them deliver best entertainment to their consumers by using the latest available technologies.

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