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Immersive Media

The quest for a truly immersive media experience is almost the history of media technology. We have sought to create an experience *just like being there* from the earliest days of recorded sound, right up to the present day. Curiously, the desire for richer and more immersive productions has spawned technologies that help us in other areas.

Immersive audio or next-generation audio (NGA) is a good example. As we have moved from mono to stereo to multichannel to object-based audio, we find new ways of answering the question, "How do I convert all of these microphone feeds into a good experience for my listener?" NGA delivery to the consumer means that you may go above and beyond what was possible in the past. There are TVs, soundbars, set-top boxes, and audio/visual (AV) receivers that can take an NGA feed and deliver it in a number of ways. The obvious one is to recreate an environment in which sounds can come from any direction. This might be used to create the feeling of being inside a forest or stadium environment but might also be used to move a sound in three dimensions around the listener.

What is less obvious is that this technology can also be used for personalization and improved delivery of accessibility services. An NGA receiver has a built-in renderer that converts the instructions in the bitstream into the signals needed to drive the speakers to an individual consumer's actual speaker arrangement. This allows ancillary services, such as an audio description of the scene for those with visual impairments to be moved and level-controlled to make the narrator more a part of the scene and less of an add-on. If you are not familiar with the benefits of an accessible soundscape to your projects, I recommend listening to Tommy Edison, a blind film critic. His wonderful sense of humor and his descriptions of films that can be followed with your eyes closed is simply a pleasure to hear.

In this era, where we can build almost any media tool that we can think of (of course at a cost), the application of immersive production and distribution techniques to other areas of the media business will improve take-up of the technologies and reduce the price for all. I am particularly excited about the possibilities of combining NGA, machine learning-generated metadata, and augmented reality visualization for problem-solving and education. We do live in interesting times.

If you are interested in SMPTE's work in these areas, please get in touch! We will help you to take part in immersive audio work, advanced video work, or introduce you to our new machine learning task force with the aid of the Entertainment Technology Center (ETC). SMPTE

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