5G live streaming creates new fan experiences

Tech and media collaborations are transforming sports viewing
AT&T teams up with Ericsson, LiveU, Samsung and the NBA to broadcast live video over AT&T 5G+ network at the NBA Summer League 2019.

Whether at the game, at a local sports bar or watching from the comfort of home, fans are now taking photos, shooting video, sharing clips and checking in on highlights from multiple games—often simultaneously. Sports fans have high expectations for always-accessible and immersive sports viewing experience.

5G will likely play an important role at virtually all sports venues in the future to enhance the spectator viewing experience. In some cases such as the NBA Summer League, 5G using millimeter wave spectrum (“5G+”) is already demonstrating its potential to enhance the fan experience by changing the way a live sports broadcast is produced.

5G+ provides an efficient and high-performance game-changing experience. Sporting events have the potential to better serve both the fan attending games in person and the die-hard fan catching the game remotely. The stakes are even higher for organizations like the NBA and live broadcasters that connect the world to professional basketball.

Through live-streaming video, mixed reality experiences and near real-time access to information about the game, the next generation in mobile wireless technology can create an enhanced experience, reinventing how the media and broadcast industry connects with fans and how fans participate in sports.

AT&T 5G+ is fast. Really fast. Reaching 2Gbps in trials. From a theoretical peak speed perspective, 5G+ is 40 times faster than 4G. This means that in the time it takes to download just one piece of content with 4G, over a 5G+ network the same content could be downloaded 40 times. Looking at it another way: you could download close to 20 basketball games before 4G could deliver even the first one! Not only that, but 5G+ also provides lower latency—the time it takes data to be transferred after a request.
Transforming media coverage of sporting events

Today, major sporting events require a large number of cameras within the venue and broadcasting trucks outside the venue, with expensive production technology usually requiring dedicated fiber, satellite links or internet connections to transport captured footage to a main production center.

A temporary and dedicated 5G+ solution can be utilized on an event-by-event basis—allowing for a subset of the number of cameras at major events or as the primary transport technology for cameras at smaller events. 5G+ can be used to connect cameras to production facilities without cables, allowing camera operators and reporters to become more mobile.

5G+-enabled smartphones with seamless integration into the production workflow (e.g., the LiveU smart app) provide sports broadcasters with a new level of flexibility. Without the need for heavy, bulky equipment and cables, camera operators using only a smartphone to capture video can get closer to the action. Additionally, smartphones give roving reporters an opportunity to create "social media" perspectives with short form content that appeals to a generation primarily consuming their media online.

“We are committed to creating entirely new immersive experiences with our 5G+-enabled smartphones by taking advantage of the speed and lower latency benefits 5G+ networks offer,” said Drew Blackard, Head of Product Management, Samsung Electronics America. “We are excited and inspired to see new use cases come to life within sports broadcasting and are proud of our work with AT&T to bring this to life powered by the Galaxy S10 5G.”

With 5G+, a sports broadcaster can mix their video captured from traditional broadcast cameras with video captured on a 5G+-enabled smartphone. According to Steve Hellmuth, EVP, NBA Technology & Operations, “the NBA found that by using Samsung Galaxy S10 5G smartphones exclusively as cameras at the MGM Resorts NBA Summer League 2019, we had excellent video quality covering the entire field of play giving our fans a cool seat—close to the action with a personalized view—making the game more intimate.”

Ultimately, 5G+ allows for broadcasters to produce content from a variety of camera angles not possible today—whether the platform is linear TV, digital channels or social media!

In the sports venue

The introduction of 5G+ at a sports venue helps broadcasters to create very high-quality video streaming in 4K UHD video, 360-degree or augmented reality and virtual reality (AR/VR) formats. High-quality video helps make detailed analysis possible in near real time. 5G also creates a horizontal platform to serve additional applications. Imagine the moment when fans will be able to monitor and track athletes’ performance during practice and competition in near real time. With 5G technology at events, and the expected market deployment of smart wearables over the coming years, one can only imagine what is possible—for fans, players and officiating teams alike. Intuitive player analytics/interaction, lower latency log on supported streaming services, near real-time offside calls are in the realm of the possible.

And when a fan cannot be at the game, with 5G the potential exists to eventually create immersive fan experiences remotely with the introduction of 360-degree cameras, virtual and augmented reality. Imagine being able to walk the sideline, see what the players are seeing or join the victory celebration in the locker room—all serving the purpose of bringing fans closer to the action at the venue.

The future of sports and media

These are all things that 5G helps to enable, but the impact of the technology will have ramifications moving forward. Whether it’s watching the game from a new perspective or analyzing plays and stats in near real time, 5G has the potential to increase engagement in a multitude of ways.

“The broadcast industry has always required the best technologies because the stakes are high. However, to the surprise of many, they are also very creative, known to experiment and open to change. Because 5G is not just about speed and is positioned to deliver increased reliability and lower latency, this is a great time to collaborate with this industry on the art of the possible.”

— Phillip Coleman, AT&T Director of 5G Mobile Solutions
5G technology in action
At the MGM Resorts NBA Summer League 2019, AT&T showcased the power of 5G technology. AT&T and the NBA presented fans with new and interesting ways to get involved with all the action the event has to offer. Technological advancements with 5G and fan expectations are evolving the sports entertainment landscape, driving leaders like the NBA, AT&T and ESPN to create new and exciting opportunities on and off the court, and for fans everywhere.

During select games played on July 10–11, 2019, AT&T provided the 5G mmWave spectrum, with Ericsson as the network infrastructure supplier, to allow the NBA to stream live video from Samsung Galaxy S10 5G mmWave devices. Live action video was streamed, using the LiveU Smart mobile app, from devices in the stands directly to the NBA production truck. From the truck, AT&T Global Video Services transferred the footage to ESPN’s network broadcast offices. The live footage from the devices was used to broadcast live coverage of the games on NBA and ESPN platforms and on social media channels. This solution is opening new ways for fans to engage with the games and their broadcasts and represents another example of AT&T working to build the future of 5G applications.

“We see 5G, particularly using mmWave spectrum, as a critical advancement for the broadcast industry eventually disrupting the way breaking news, live sports and other live events are produced. We anticipate the technology will bring more capabilities to our customers such as multiple channels of audio, multicamera productions from a single portable transmission solution, 4K UHD streaming and high-quality video return,” said Avi Cohen, Chief Operations Officer and Co-founder, LiveU.

Benefits of AT&T 5G+ for events and broadcasters
AT&T’s innovative approach to supporting live event broadcasting using 5G+ technology addresses the evolving need to have high-resolution video content available quickly for distribution to multiple outlets and viewers. The solution deployed at the NBA Summer League provided benefits not otherwise realized by traditionally tethered broadcast cameras including:

- Flexibility—High-speed bandwidth without wires gives access to new and different camera angles
- Traffic Management—Enables data aggregation over a dedicated, highly secure 5G+ network
- Live Experience—Supports innovation through local capture and consumption of content
- Portable—Brings a temporary customer network solution to an event
- Revenue—Creates potential revenue streams with new 360-degree or 4K UHD video content

Through collaboration with Ericsson, LiveU, Samsung, ESPN and the NBA, AT&T has reached another first in the 5G innovation race: live-streaming a professional sports event over 5G+ smartphones using a deployable 5G+ platform.

“It’s fair to say that AT&T delivered triple-double results across innovation, partnership and execution by enabling the NBA to achieve their #SMARTPHONEVIEW vision,” observed Jill Reardon, Vice President East, Sports & Entertainment, AT&T.

AT&T and its solution providers are creating new ways to capture content, providing options for new camera angles and coverage opportunities all delivered via a deployable, highly secure and dedicated 5G+ wireless network solution. The future is here for sports broadcasting, raising the bar for what a premium sports experience means to broadcasters and fans made possible with 5G.

To create the ultimate fan experience, the mobile video is captured and streams through the AT&T 5G+ network to the LiveU server. Video is transmitted over AT&T 5G+ network. 5G’s ability to transfer high volumes of data at super-fast speeds and with lower latency is key to enabling this fan experience.

Ericsson 5G mmWave Massive MIMO Antenna Integrated Radio and Baseband combined with the Core/vEPC provides high throughput of data between the mobile device and the LiveU server.

Live broadcast of quality IP video encoding, built into smartphone app, provides video transmission, utilizing the 5G+ network, from the court to the LiveU receiver server in the production truck.

5G provides broadcasters with more production flexibility, creating new ways to engage with their audience.

Fans can engage in new and exciting ways with their favorite sports teams.
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About LiveU
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