

A deep dive into 5G use cases for sports and media

Bringing life to 5G experiences for
sports and media industries

February 2021



Over the last three years, 5G has brought us into exciting conversations involving sports and media with a few powerful sports showcases along the road. The build-out of 5G in North American venues for professional sports has been fast. This paper contains six cheat sheets to support your customer conversations with clear talking points and supportive facts for the intersection of sports and media.

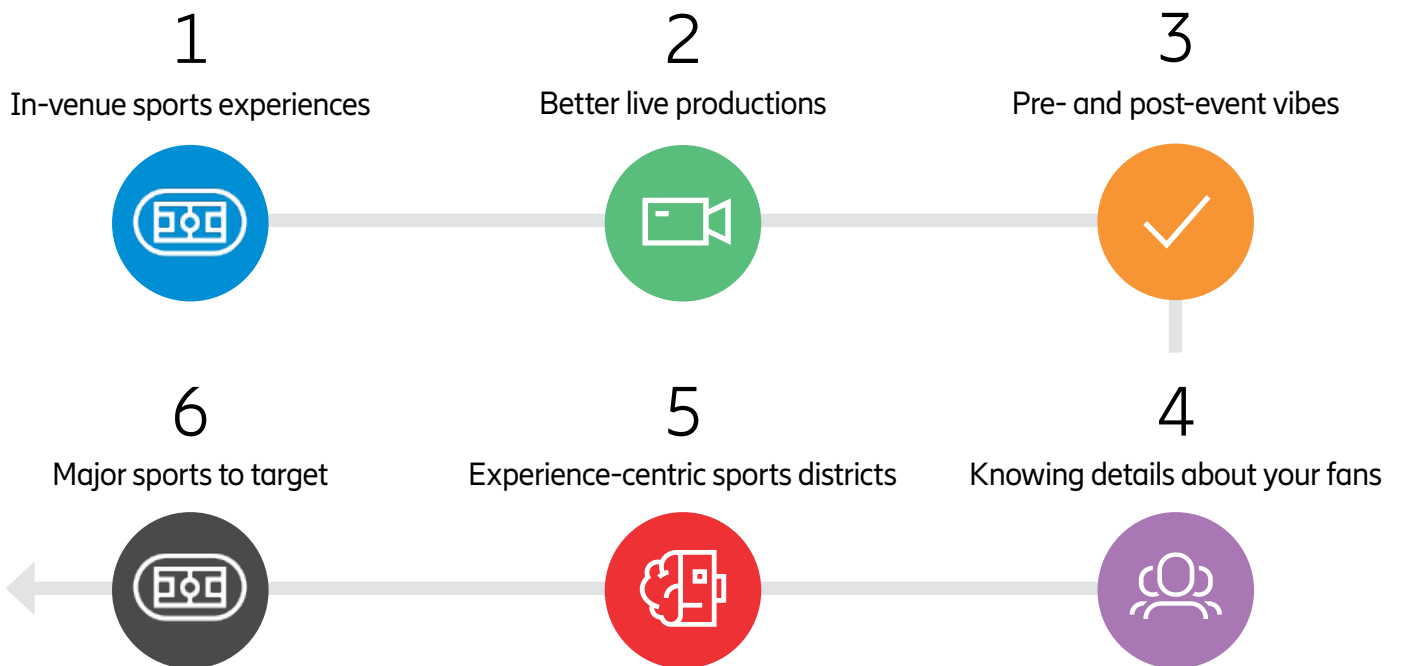
I was fortunate to grow up at the intersection of sports, media, and technology when we hosted Formula 1 races in my hometown when I was a kid. In 1973, computerized results, leading up to real-time results fed to broadcasters in 1982, computer-generated graphics in 1986, and wireless timekeeping in 1988. This cradle made me curious about sports to a point where I now love to see how 5G can make a difference for the future fan experience. Feel free to reach out and engage as this is a passion close to my heart.

Peter Linder,
5G evangelist



Contents:

5G has potential to transform sports and media experiences. Explore these six use cases for 5G at venues, at home and on the go.



Cheat sheet 1—In-venue sports experiences



Use case deep-dive: in-venue sports experiences

Main message

5G is a game changer for DAS/Wi-Fi in venues with potential to improve the live experience for fans in venues.

Target audience

Communications service providers
Major sports leagues/franchises
Venue owners/developers

First edition February 15, 2020, prepared for a 4-5 minute conversation

Talking points

Classic venue networks

The wireless networks at sports/concert venues are dominated by two different types of networks:

- neutral distributed antenna systems (DAS) serving multiple mobile service providers, for coverage/capacity expansion towards existing data plans
- Wi-Fi—provided free of charge by venue provider

Zero-sum game—all revenue from DAS is offset by annual Wi-Fi capacity upgrades.

Strategy for 5G fan experience

- Deploy a powerful 5G network to improve the fan experience at venues
- Monetize as part of a premium venue experience
- Find balance between 4G, WiFi and 5G network investments

Sharing experiences with live video on social media

- ability to share experiences by live streaming of video on social media

Superior services in premium suites

- dedicated 5G network or slices to secure premium connectivity in suites/booths

Augmented live experiences

- Point smartphone-camera towards action on stage or competition surface to access TV-like graphics with athlete/musician information statistics.
- access to different commentator tracks for fans with different knowledge base of a sport or primary language, for example, spouses/husbands and business clients

Personal Jumbotron

- Be your own producer by selecting a camera angle to watch on your smartphone.
- Move between camera angles as if you were changing seats in the venue.

5G venue outlook

- part of overall live experience, including trip to/from venue, tailgating, and concession areas to attract more fans to attend sports/music events live
- starting in major sports venues, for example, NFL, NHL/NBA/concerts, MLB and NASCAR
- gradual capacity build to support new use cases as they mature
- 5G coverage at temporary event locations, for example, outdoor festivals and marathons

5G spectrum considerations

- high-band-centric with a high concentration of fans in a very limited area

Key takeaway: 5G plays a central role in enhancing the fan experience in venues, starting with high-end sports first.

Cheat sheet 2—Better live productions



Use case deep-dives:
better live productions

Main message

5G is a game changer for live productions of broadcast and streaming media from sports and music venues.

Target audience

Communications service providers
Major sports leagues/franchises
Venue owners/developers
Sports broadcasters

First edition February 15, 2020, prepared for a 4-5 minute conversation

Talking points

Classic media productions

Classic productions for broadcast TV and streaming media rely on:

- mobile units for remote broadcast TV productions, a USD 5 million bus with technology
- professional cameras and camera/audio men/women at venues
- wired connectivity between cameras and mobile production units
- three-fifths dedicated fiber, one-fifth internet and one-fifth satellite for transport to production hub

Strategy for 5G media productions

Broadcast sports in the 5G age provides a set of new options:

- Add new camera angles beyond what can be offered with wires.¹
- Include footage from smartphones in live broadcast productions.
- Leverage 5G as a backhaul transport complement to fiber, internet and satellite.

Wireless camera angles/options

- cameras attached to athletes and/or their equipment
- a higher degree of freedom for roaming photographers
- unique camera angles hard to serve with human photographers or wired connections

Extend live productions into middle and minor leagues.

- Extend coverage from professional sports to college/high-school leagues.
- Extend coverage to events covered by a single camera without a broadcast bus.

Leverage fantographer footage.

- Leverage live footage from fan's smartphones in live broadcast productions.²

Extend pre- and post-show options.

- Add pre- and post-show sequences from a larger group of reporters producing VLOG-like contributions to the live feed from 5G-powered phones.

Outlook for 5G-enabled live productions

Broadcast sports in the 5G age provides a set of new options:

- stationary or temporary 5G network depending on the amount of yearly events
- Leverage 5G for professional sports and mixed/minor league sports.
- Extend venue coverage beyond fiber/internet reach at cost below satellite.
- mix of professional camera men/women and fantographers

5G spectrum options


High-band is optimized for maximum upstream capacity with networks slices dedicated for media productions.

Key takeaway: Live broadcast producers are likely to leverage dedicated/private networks, starting from where most the urgent needs are.

¹ Ericsson AT&T, Intel US Open in Golf 2018

² Ericsson and AT&T NBA Summer League 2019

Cheat sheet 3—Pre- and post-event vibes

 Use case deep-dive: pre- and post-event vibes	Main message 5G allows live sport organizers/promoters to enhance the total experience from home to venue and back. <i>First edition February 15, 2020, prepared for a 4-5 minute conversation</i>	Target audience Communications service providers Major sports leagues/franchises Public transport/parking authorities
Talking points		
Classic pre- and post-event experiences	Classic pre- and post-live event experiences rely on: <ul style="list-style-type: none"> • human-guided parking on a first-come first-served basis • limited network coverage and capacity in parking/tailgating areas • manual ticket and security screening • manual orders of food and drinks 	
Strategy for 5G to boost pre- and post-event vibes	A base strategy for using 5G to improve pre- and post-event experiences relies on: <ul style="list-style-type: none"> • network coverage and capacity extended from seating areas to include parking, tailgating, public transport stations and concession areas • experiences formed around each step in the fan journey from home-venue-home 	
Assisted parking for personal vehicles	Fans arriving in personal vehicles get assistance to find the most convenient parking spot in within a given price range.	
Enhanced tailgating experiences	Tailgating fans get access to unique content prior to game in areas close to the venue.	
Digital tickets and security screening	The ticket verification and security screen process can be automated.	
Real-time betting	Sports betting live at venues and remotely is going through a major transformation: <ul style="list-style-type: none"> • Sports betting is legal in 20 states, with 6 state bills passed and 22 introduced.³ • 39% (~100 million) of adult Americans are either current or potential sports betters.⁴ 	
Digital billboards for public transport and ride hailing	Digital billboards can be introduced for dynamic updates to visitors leaving the venue with public transport or ride-hailing services.	
Mobile-centric post-game shows	5G can transform the post-game experience in a variety of ways: <ul style="list-style-type: none"> • post-show interviews done with a reporter with a smartphone in larger quantity than what is possible with a few professional camera crews • guided assistance for leaving the venue in your preferred way (leave early to avoid traffic, fast way out after the game, take in the full experience after a win) 	

Key takeaway: Ericsson leads the way to demonstrate private 5G and edge computing capabilities to drive innovations.

³ United States of sports betting, an updated map on where every state stands, ESPN, November 3, 2020

⁴ PwC 2021 sports outlook – 2020 changed the game for sports, what is next?

Cheat sheet 4—Knowing details about your fans



Use case deep-dive:
knowing details about your fans

Main message

Key stakeholders in the sports and media industries aspire to refine their fan understanding to improve both event and media experiences.

Target audience

Communications service providers
Major sports leagues/franchises
Sports Broadcasters
Venue owners

First edition February 15, 2020, prepared for a 4-5 minute conversation

Talking points

Classic insights about fans

The information and insights available about the fans have historically been limited:

- names/amounts of ticket holders for each live event and Pay TV services
- number of parked vehicles, including tailgaters
- amount of concession stand and store purchases at venues
- data traffic used in cellular and Wi-Fi networks at the venue

What fans do at venues

The first area of insights is about what fans do physically at the venue:

- when fans arrive and when they leave, and who they are going with
- how fans act in natural breaks—eat, drink, bio-breaks, purchases, and so forth
- how fans move to and from the venues—extending the view of the total experience

How fans use digital at venues

The second area of insights is about how digital enhances the fan experience at the venue:

- what **device/s** fans use at the venues—smartphones and/or dedicated devices
- what **apps** fans use to augment live experience—venue, sport, teams, fantasy
- how they connect with friends and family not joining them at the venue

Which media fans use at home and on the go

The third area is about how fans engage with sports at home and on the go—the only way to engage for most fans and for global pinnacles, for example, Olympics, FIFA World Cup, F1, and the like.

- preferred device for live sports – TV (40%, desktop (22%), smartphone (17%)⁵
- the eight growing types of sports media content⁶
- which of 16 fan engagement features to use in Direct to Consumer (D2C) offerings⁷

How fans engage between events

The final area is about understanding how to engage fans between events and in the off-season periods:

- reading up on statistics and news about their favorite sports, teams and athletes
- catching up on events they missed live
- engaging in esports and fantasy leagues of their favorite sport/s


Key takeaway: Capturing and analyzing more detailed data of fans at venues at home and on the go is central to develop and optimize fan experiences further.

⁵ Deltatre: A new digital decade – the evolution of the US sports fans, February 3, 2020

⁶ PwC 2021 sports outlook – 2020 changed the game for sports, what is next?

⁷ MediaKind 2021 sports D2C forecast, December 3, 2020


Cheat sheet 5—Experience-centric sports districts

 <p>Experience-centric sports districts</p>	<p>Main message</p> <p>New sports venues, for games or practice, are planned as part of broader experience-centric districts.</p>	<p>Target audience</p> <p>Communications service providers Major sports leagues/franchises Real estate developers Sports healthcare providers Retail and restaurant chains</p>
<p>Talking points</p>		
<p>Experience-centric districts</p>	<p>Experience-centric districts around new sports complexes is a new 5G-enabled opportunity:</p> <ul style="list-style-type: none"> • NFL teams invest in premium practice facilities, such as the Star in Frisco⁸, TX, Dallas Cowboys' headquarters and practice ground with 12,000 seats. • Five years after the Star build out, breaking ground in August 2014 and opening 2016, you can leverage 5G to create an even smarter experience-rich district. • experience-centric districts suite top tier venues serving NFL teams (game and practice venues), prime European Football teams, Olympics hosts (Paris, Milan, LA) and FIFA World Cup hosts (Qatar, US/Canada/Mexico) 	
<p>Full-scale game/practice facilities</p>	<p>The anchor is a practice facility or an arena for college sports:</p> <ul style="list-style-type: none"> • game arenas taking advantage of 5G to develop fan experience in/around venue • practice fields taking advantage of 5G to for data/video-driven training methods • multiple types of arenas at college campuses with broad sports programs 	
<p>Hall of fames for your team</p>	<p>A major game or practice facility can be promoted as a travel destination for fans featuring:</p> <ul style="list-style-type: none"> • a multimedia-rich hall of fame experience, beyond game-worn jerseys and stills • meeting and greeting active players/athletes in relation to practice sessions • ability to insert yourself in game/race/competition-authentic situations 	
<p>Sports-medicine-focused hospitals</p>	<p>Professional sports are tightly associated with advanced sports medicine facilities:</p> <ul style="list-style-type: none"> • surgeries and rehabilitation of injured athletes needing short recovery times • surgeries and rehabilitation of normal citizens with difficult injuries 	
<p>Retail and restaurants</p>	<p>These new districts aspire to include premium experiences like:</p> <ul style="list-style-type: none"> • flagship stores for premium brands—delivering augmented in-store experiences • restaurants delivering culinary experiences tailored to each fan base 	
<p>Integrated or stand-alone esports siblings</p>	<p>The rapid growth professional esports open up for new experiences:</p> <ul style="list-style-type: none"> • esports experiences co-located with the primary sport franchise • experience districts built around dedicated esports venues 	

Key takeaway: Ericsson leads the way to demonstrate private 5G and edge computing capabilities to drive innovations.

⁸ The Star in Frisco

Cheat sheet 6—Major sports to target

 <p>Major sports to target</p>	<p>Main message</p> <p>The adoption of 5G for sports and media starts with the top-tiers of major global sports</p> <p><i>First edition February 15, 2020, prepared for a 4-5 minute conversation</i></p>	<p>Target audience</p> <p>Communications service providers Major sports leagues/franchises</p>
<p>Talking points</p>		
<p>Soccer</p>	<p>Soccer/Football has the largest fan base worldwide:</p> <ul style="list-style-type: none"> • 3.5 billion⁹ fans in Europe, Africa, Asia and Americas • MLS grows rapidly in the US and has the youngest fan base at 40 years (2016)⁹. • FIFA World Cup awarded to Canada, Mexico and USA for 2026. 	
<p>Olympics</p>	<p>The Olympics is a platform often used for introducing new technology.</p> <ul style="list-style-type: none"> • NBC and IOC have a USD 7.75 billion TV right deal in place for six events from 2021-2032. • Average age of Olympics fans is 53 years (2016) up from 50 (2006).⁹ • Los Angeles will host the summer Olympics in 2028. 	
<p>American football</p>	<p>American football has seen the fastest build-out of 5G networks at venues</p> <ul style="list-style-type: none"> • American football has around 410 million fans globally, mostly in the US.¹⁰ • 33 of the top 50 most watched TV broadcasts in the US in 2020 were NFL games. • Annual TV rights amount to USD 6.45 billion and are up for renegotiation in 2021. • The average NFL fan is 50 years old (2016), up from 46 (2006).⁹ 	
<p>Basketball</p>	<p>Basketball has the third-largest fan base in the world, and few get to see an NBA game live.</p> <ul style="list-style-type: none"> • 2.2 billion fans, centered in US, Canada, China, Japan and the Philippines • USD 2.6 billion annually in TV distribution rights for NBA, from 2016/17 to 2024/25¹¹ • The average age of the NBA fan is low, and increased from 40 (2006) to 42 (2016).⁹ 	
<p>Baseball</p>	<p>Baseball has the eighth-largest fan base in the world:</p> <ul style="list-style-type: none"> • 500 million fans, centered in in the US, Japan, Cuba and the Dominican Republic • Annual TV rights are worth USD 535 million in a new • MLB has one of the older fan bases, average age up from 52 (2006) to 57 (2016). 	
<p>Ice hockey</p>	<p>Ice hockey is the fourth major team sport in North America characterized by,</p> <ul style="list-style-type: none"> • a portion of the ~2 billion hockey fans, together with field hockey, in US and Canada • Annual TV rights in the US is USD 200 million and up for renegotiations in 2021, with Canadian deal worth CAD 443.3 million and valid until 2026. • The average age for NHL fans has increased from 33 (2000) to 49 years (2016). 	

Key takeaway: All sports need to transform venue and TV/streaming experiences to fight the trend of an aging fan base.

⁹ The sports with the youngest and oldest TV audiences, June 30, 2017

¹⁰ Top-10 most popular sports in the world, October 3, 2020

¹¹ Sports Broadcasting contracts in the US, Wikipedia, December 8, 2020

About Ericsson

Ericsson enables communications service providers to capture the full value of connectivity. The company's portfolio spans Networks, Digital Services, Managed Services, and Emerging Business and is designed to help our customers go digital, increase efficiency and find new revenue streams. Ericsson's investments in innovation have delivered the benefits of telephony and mobile broadband to billions of people around the world. The Ericsson stock is listed on Nasdaq Stockholm and on Nasdaq New York.

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