



Fan Engagement in Sports: The Advent of Artificial Intelligence

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Introduction

Fan engagement has become a strategic cornerstone of the sports industry, not just for enhancing how audiences connect with the game but as a driver of loyalty and revenue. Teams, leagues, and event organizers are investing heavily in technologies to deepen connections with their audiences. In fact, the sports sector is increasingly focusing on fan engagement, recognizing that passionate, engaged fans fuel the entire sports ecosystem.

Today's fans also expect more immersive, personalized interactions with their favourite teams, enabled by digital platforms and artificial intelligence. A recent IBM global study of 20,000 sports fans found 85% see value in integrating AI into their sports interactions, and 63% express trust in AI-generated sports content. From real-time stats on a second screen to AI-curated highlight reels, technology is reshaping how fans follow and feel about the game.

Understanding Fan Engagement in the Digital Era

Fan engagement encompasses the interactions, enthusiasm, and loyalty that fans exhibit toward sports teams, leagues, or athletes. It includes everything from attending live games and cheering in stadiums to consuming sports content online, buying merchandise, and participating in fan communities.

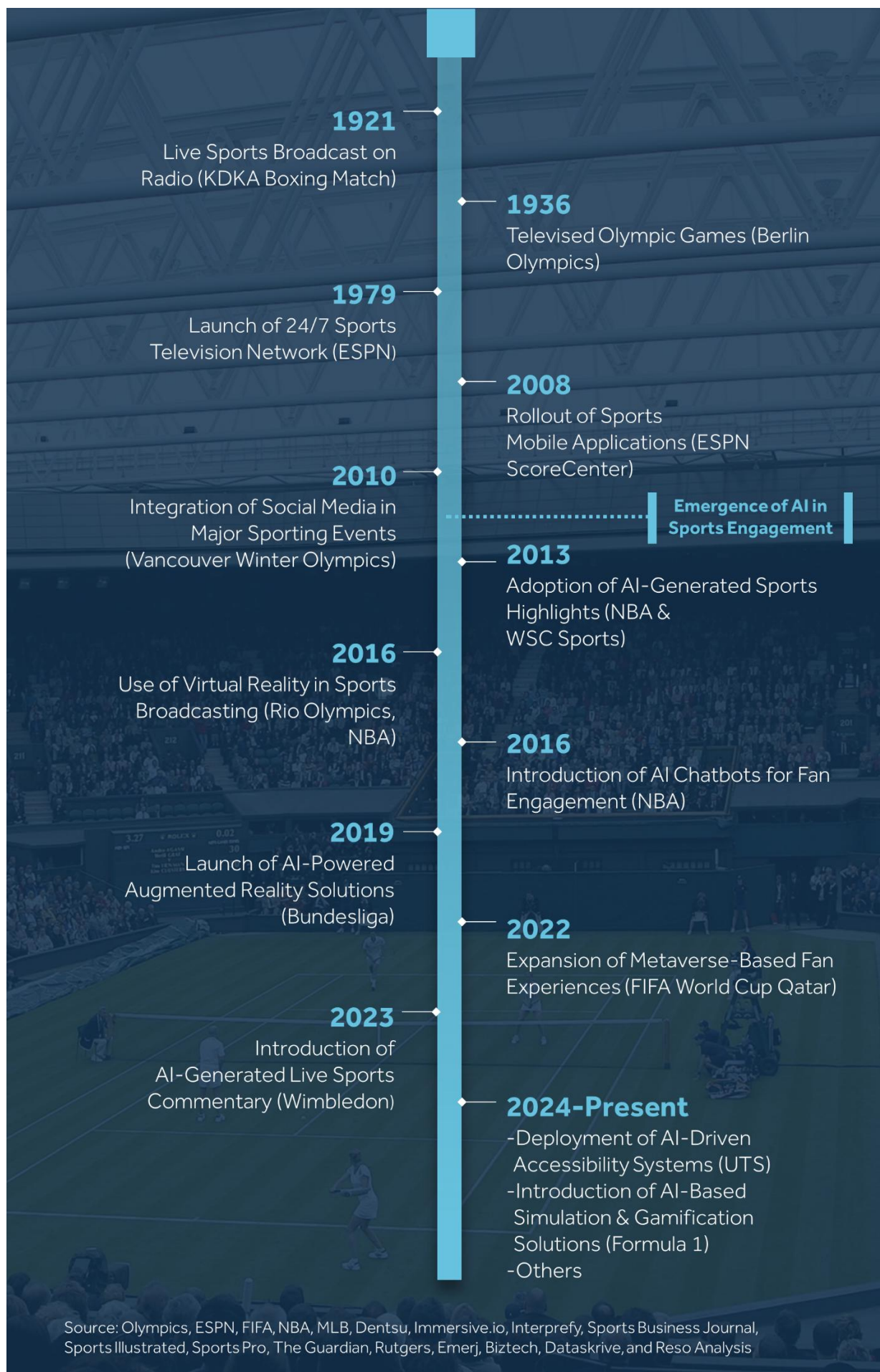
Traditionally, fan engagement meant being in the stands on game day or tuning in via TV and radio, then talking about the match with friends. While those traditional forms remain core, the digital era has vastly expanded how fans engage. According to Deloitte, social media and streaming platforms are now central to fandom, with more than 90% of Gen Z and millennial fans reporting that they use social media to consume sports content (highlights, live scores, commentary, etc.).

Fans today join online forums and fantasy leagues, follow athletes on platforms such as Instagram, and even engage in second-screen interactions, where they use a phone, tablet, or laptop to follow live stats, participate in Twitter chats, or interact with other content while simultaneously watching a game. In short, being a sports fan has become a 24/7, interactive, omni-channel experience.

Artificial intelligence is increasingly at the heart of these modern fan engagement channels. AI algorithms help personalize content for individual fans, deliver real-time insights, and enable new forms of interactive experiences. For instance, more than half of fans (54%) now rely on AI or generative AI tools as their primary source of sports information, as reported by Capgemini.

AI is enabling new interactive possibilities as well. Imagine using an app to virtually compete with a star player or to 'replay' a match with hypothetical scenarios. In fact, Capgemini reports that 58% of fans would like to replay games with 'what-if' scenarios, and 27% are even willing to pay a premium for such AI-driven features.

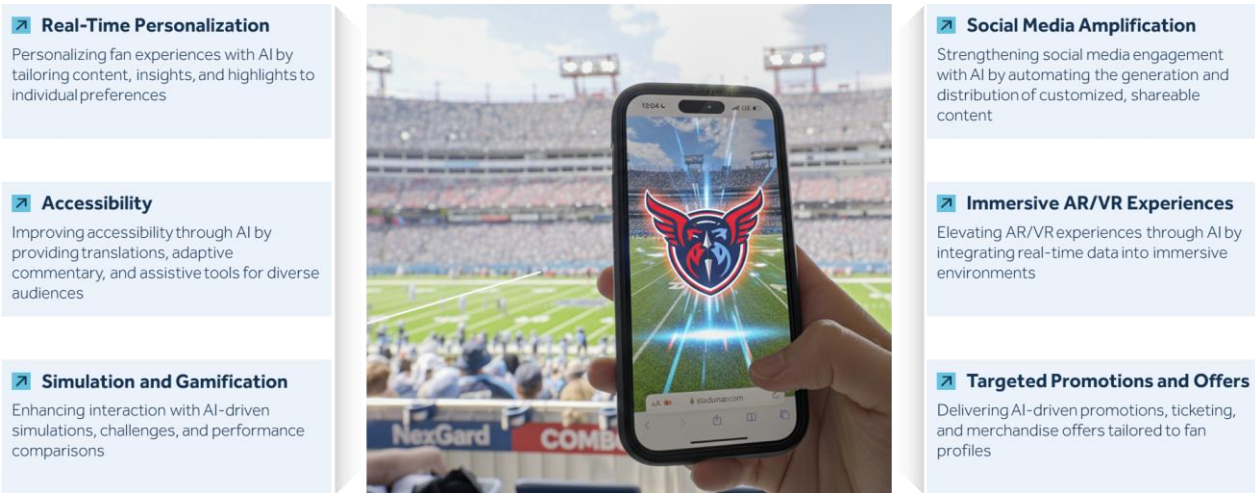
Figure 1: Evolution of Key Innovations in Sports Fan Engagement





AI-Powered Fan Engagement in Action

Around the world, sports organizations are deploying AI-driven solutions to supercharge fan engagement. From generating highlights in seconds and simulating alternative game outcomes, to translating commentary into multiple languages and delivering personalized promotions at scale, artificial intelligence is fundamentally reshaping how fans engage with sports. These applications are organized into several key use cases, each illustrated by recent real-world examples.

Figure 2: Key AI Use Cases in Sports Fan Engagement Across Channels



1. Real-Time Personalization: AI enables fans to engage with sports in a way that feels tailored to their individual preferences. From instant analytics to personalized content feeds, audiences can access insights and updates that align with how they like to follow the game. According to IBM and Morning Consult’s 2025 survey, 90% of fans now consume more than just live games, with highlight videos emerging as the most popular form of additional content.

	
Wimbledon (2025): Match Chat and Likelihood to Win Features	Scuderia Ferrari HP (2025): AI Race Recaps and Insights App
<p>At Wimbledon 2025, IBM introduced the AI-powered 'Match Chat' feature alongside an enhanced 'Likelihood to Win' tool on the official app and website to deepen fan engagement.</p> <p>Match Chat serves as an interactive assistant, allowing users to ask questions such as which player is performing better and receive instant insights based on live match data. The Likelihood to Win tool provides continuously updated win probabilities by analyzing player statistics, expert input, and match momentum.</p> <p>Together, these features deliver real-time insights and offer fans a more interactive way to follow the tournament.</p>	<p>In 2025, Scuderia Ferrari HP, a Formula 1 racing team, launched a redesigned mobile application in partnership with IBM to engage its global fanbase of nearly 400 Mn.</p> <p>Powered by IBM’s Watsonx platform, the app features AI-driven race recaps, post-race insights with interactive data visualizations, and historical comparisons of team and driver performance.</p> <p>It also offers interactive polls, fan messages, and highlights of iconic races, providing fans with round-the-clock access to personalized and immersive F1 sports content.</p>

2. Accessibility: Artificial Intelligence is making sports more inclusive by breaking down barriers, whether linguistic, sensory, or cognitive, so that more fans can participate in live, in-stadium experiences.



Super Taikyu (2024): AI Live Commentary for Accessibility

During the 2024 Super Taikyu, Japan's largest endurance motorsport race, Dentsu, in collaboration with the Toyota Mobility Foundation, introduced Voice Watch, an AI-driven live commentary system designed to make sporting events more accessible for visually impaired spectators.

The system integrates object recognition, sign detection, and speech frame AI to track race cars, analyse real-time driving data, and generate natural-sounding commentary modelled on professional broadcasters. This enabled visually impaired fans in the stadium to follow the action independently and fully engage with the live event.

3. Simulation and Gamification: Sports fans are no longer passive spectators. With AI-powered simulations and gamification, they can test different strategies, compare their performance with professional athletes, and actively participate in the game. These tools shift fandom from passive watching to direct involvement, making fans feel more connected to the action.



ADNOC, Abu Dhabi Formula 1 Grand Prix (2024): F1 Fan Gamification Lab

Abu Dhabi National Oil Company (ADNOC) partnered with ai.io, a UK-based AI technology firm, to launch the AI Performance Lab at the Abu Dhabi Formula 1 Grand Prix. The initiative combined AI systems with professional-grade performance equipment, allowing fans to test their abilities and compare their performance against benchmarks set by professional F1 drivers.

4. Social Media Amplification: Social media is a primary channel for sports, especially among younger fans. Deloitte reports that over 90% of Gen Z and millennials consume sports content on these platforms, often through clips and highlights. AI supports this shift by automatically generating and tailoring content, then publishing it quickly to extend engagement beyond the stadium.



LaLiga (2023–24): Automated Social Media Highlights

As part of its 2023–24 season rebrand, LaLiga, Spain’s professional football league, partnered with WSC Sports, an AI-powered video automation provider, to automate the creation of short-form video highlights for social platforms.

The platform ingests live match feeds from all 42 LaLiga teams, analyses them in real time, and uses AI to identify, tag, and automatically generate highlights tailored for social media, apps, and broadcasters.

During the 2023–24 season, this approach enabled LaLiga to create over 260,000 highlights, gain about 1.4 Mn new social followers each week, and significantly increase fan engagement across its digital platforms.

MLB (2023): AI-Powered Fan Clips

For the 2023 season, Major League Baseball (MLB), the professional baseball league in the United States, renewed its partnership with 15 Seconds of Fame (15SOF), a U.S.-based technology startup specializing in AI-driven fan engagement.

By leveraging this collaboration, 15SOF enabled the use of facial recognition to identify spectators featured in broadcast or in-venue video feeds, then package and deliver those clips directly to fans via the 15SOF app or the MLB Ballpark app. Fans could then share these custom video moments, such as crowd reactions, on social media, amplifying awareness and engagement.

5. Immersive AR/VR Experiences: Augmented and virtual reality, when combined with AI, are redefining how fans connect with live sports both inside stadiums and from remote locations. These technologies overlay real-time data on the physical game or recreate the event in virtual environments, allowing fans to interact with matches in new ways.



Bundesliga (2019): AI-Generated AR Overlays

In 2019, at the Volkswagen Arena in Wolfsburg, the Bundesliga, Germany’s professional football league, partnered with Immersiv.io, a French startup specializing in AI-powered augmented reality solutions, to launch the ARISE platform. Using 5G, computer vision, and machine learning, the platform allowed fans to point their smartphones at the pitch and view augmented reality overlays with real-time player statistics, heatmaps, and live insights. It offered both interactive and automatic options, blending live match action with digital overlays to create a more immersive and engaging in-stadium experience.

6. Targeted Promotions and Offers: AI-driven segmentation is enabling sports organizations to move beyond generic campaigns and deliver offers that are highly relevant to individual fans. For example, a season-ticket holder might receive early access to premium seating upgrades, while a casual fan could be targeted with discounted merchandise bundles.



New York Yankees (2024): AI Customer Data Platform for Targeted Offers

In 2020, the New York Yankees, a professional baseball franchise, partnered with StellarAlgo, an AI-based fan engagement platform provider, to implement its Customer Data Platform (CDP) to enhance fan engagement. The platform uses machine learning to unify and analyse millions of interactions across tickets, merchandise, and digital channels, enabling real-time audience segmentation and the delivery of tailored offers to fans.

Viewed together, the use cases and examples highlight that AI touches every stage of the sports event lifecycle. It plays a role before events by shaping anticipation and engagement, during events by enriching the live action with data and interactivity, and after events by sustaining connections through follow-up content and tailored outreach. This lifecycle perspective makes clear that artificial intelligence is not applied in isolation but acts as a continuous thread, ensuring fans remain connected and involved well beyond the boundaries of a single match.

Figure 3: Mapping AI Use Cases and Case Examples Across the Event Lifecycle

Use Case	Case Example		Pre-Game	In-Game	Post-Game
			Before the event, AI helps build anticipation through tailored highlights, previews, and interactive content	During the event, AI enhances engagement through real-time statistics, instant translations, digital overlays, and other interactive tools	After the event, AI reinforces engagement with highlights, recaps, insights, and personalized offers
Real-Time Personalization	Wimbledon (2025)	Match Chat and Likelihood to Win Features		✓	
	Scuderia Ferrari HP (2025)	AI Race Recaps and Insights App	✓	✓	✓
Accessibility and Inclusion	Super Taikyu (2024)	AI Live Commentary for Accessibility		✓	
Simulation and Gamification	Abu Dhabi Formula 1 Grand Prix (2024)	F1 Fan Gamification Lab	✓	✓	✓
Social Media Amplification	LaLiga (2023-24)	Automated Social Media Highlights	✓	✓	✓
	MLB (2023)	AI-Powered Fan Clips		✓	✓
Immersive AR/VR Experiences	Bundesliga (2019)	AI-Generated AR Overlays		✓	
Targeted Promotions and Offers	New York Yankees (2024)	AI Customer Data Platform for Targeted Offers	✓	✓	✓

Key Considerations for AI Adoption in Fan Engagement

Implementing AI-driven fan engagement comes with important considerations. Sports organizations must navigate technical, ethical, and strategic factors to ensure these innovations truly enhance fan engagement. Here are some key considerations:

- **Latency Management:** In live sports, even the slightest delay between live action and when fans receive related data on screen can disrupt fan engagement. Unlike other forms of digital media, sports engagement is highly time sensitive. Replays, predictive insights, and performance stats lose their impact if they arrive late. According to Capgemini's 2025 report, nearly 70% of fans want real-time access to player metrics and live match conditions, making ultra-low latency systems essential for seamless engagement.
- **Bias Mitigation:** AI systems in fan engagement are only as reliable as the data used to train them. If datasets are incomplete or unbalanced, such as by overrepresenting certain fan groups, languages, or regions, the systems may unintentionally disadvantage others. This can create unequal experiences, with some fans receiving more relevant content, while others are overlooked. To reduce such risks, sports organizations should monitor AI outputs, promote diversity in datasets, and apply governance frameworks.
- **Data Privacy and Security:** AI-powered fan engagement relies heavily on sensitive personal and behavioural data. Sports organizations are entrusted with this information, and any misuse can significantly erode fan trust. According to PwC, 83% of consumers identify data protection as the most important factor influencing their trust in organizations. To safeguard this trust, sports organizations must establish clear consent mechanisms, implement robust encryption, ensure compliance with relevant data protection regulations, and maintain audit trails for AI-driven analytics. These measures are essential to uphold privacy, strengthen security, and support sustainable fan engagement at a global scale.

Conclusion: The Road Ahead for Fan Engagement

The coming decade promises transformative growth in sports technology, driven by AI-powered fan engagement. IBM's global survey shows that 80% of fans believe technology, particularly artificial intelligence, will shape how they follow sports by 2027. This shift points to a future of personalized content, immersive AR and VR experiences, and greater accessibility, all powered by intelligent systems.

For sports organizations, the path forward is not only about adopting artificial intelligence early but also about building the right foundations to sustain long-term impact. This requires investment in resilient infrastructure and governance frameworks to address core needs such as ultra-low latency for real-time content delivery, algorithmic fairness to serve diverse audiences, and robust data privacy measures to maintain trust. By embedding these priorities into their AI strategies, sports organizations will not only capture global audiences but also shape the next era of fandom.

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Thank you

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