How sport is changing technology

By Lauren Wortmann

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We have all seen how far sports tech has come in the last decade. From the introduction of Hawk-Eye in rugby to using GPS tracking to collect data and stats related to performance, to enhancement of sportswear through technology, and even progressive innovation in the Internet of things (IoT), connected devices, virtual reality and artificial intelligence.

Cycling is a data driven sports. Source: Will Treuttner/Unsplash

In fact, sports tech advancement has been so accelerated, some may not be familiar with just how intertwined technology has become in changing the game.

Cycling in particular has seen advancements that have dramatically impacted the way both amateurs and professionals alike interact with the sport, and nowhere is this more present than in cycling's biggest race: the Tour de France.

The tour is home to some of the most cutting-edge technologies in the field, this year riders, teams, fans and organisers will have access to enhanced technology that brings IoT, edge connectivity, and edge computing to the forefront of the famous sporting event.

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In 2023 we will be bringing a greater focus on the combined value of these technologies for real-time analytics. We will be integrating IoT and edge to create the world's largest "connected stadium" by setting up a digital twin of the race, which will connect layers of real-time information to replicate all aspects of the highly dynamic event digitally.

From Joburg, to the world

Our Johannesburg data hub, which serves as the nerve center of the Tour de France, will be gathering and analyzing vast amounts of real-time data from various sources, including GPS trackers, sensors, and social media feeds. This wealth of information enables fans to gain unparalleled insights into the race, including live rider positions, speed, heart rates, and

even predicted race outcomes.

With this data at their fingertips, viewers can engage more deeply with the race, gaining a greater understanding of the tactics, strategy, and physical demands faced by cyclists. Such advancements have redefined the fan experience, transforming passive viewers into active participants.

At the core of any data-gathering exercise are the bikes themselves. Using geolocation, the bikes will transmit a constant stream of latitude, longitude, and speed data over radio networks that provide real-time data on rider positioning and speed, allowing teams and coaches to evaluate their strategies and adjust tactics along the. This information optimises race strategies, analyses individual and team performances, and even prevents accidents by identifying potential hazards.

Another extremely exciting addition to this year's race is the integration of ChatGPT in our AI-driven Digital Human solution, which combines machine learning, speech recognition, natural language processing and conversational AI.

The digital human platform has been specifically trained on relevant race information and can access detailed information to further enhance the fan experience.

We are incredibly lucky to be living in a time when technology can take us right into the heart of our favourite sporting events, and today's technologies are just the tip of the iceberg when it comes to innovation and sports.

Sports tech is a growth market

The global sports technology market size was valued at $13.14bn in 2022 and is expected to grow at a compound annual growth rate (CAGR) of 20.8% from 2023 to 2030. As the number of sports events and data-driven decision-making and operations are increasing in demand, the market is expected to witness significant growth during the forecast period.

In a nutshell, the future of sport tech certainly looks bright. Artificial intelligence breakthroughs alone will take sports to a whole new level. The key is finding innovative ways for sports and technology to co-exist to shape our future lives and keep fans entertained for generations to come.

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