



COLOSSEUM

SPORTS TECH 5TH ECOSYSTEM REPORT

November 2021

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Last but not least, we would like to thank the sports tech industry partners, sports tech ecosystem leaders from all over, that have participated in this report by sharing their insights and insider stories. More than ever, we are stronger together.

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FOREWORD

I believe many of you know the difference between these graphs. For me, the major difference lays in between the new digital oriented companies, like Peloton and Wix, and the classic market leaders, like Nike, Adidas, and Garmin.

Thanks to our HQ being based in Tel Aviv, it has given us at Colosseum a front row seat to financial and tech opportunities. This would not have been possible without the support of Dror Leshem, CEO at [Winarize](#), and our amazing CMO, Fernanda Rojtenberg; and the many reports we analyzed, the 4800+ reviewed startups, and meeting with 200+ of them.

There is no magic and there are no secrets, yet there is a clear understanding where to put your focus as investors, entrepreneurs, corporate leaders, or media giants.

Now, back to our main focus: the graphs show how the last few months had a tremendous impact on the tech transformation. Much (much) more money was invested and the tech talent finally arrived (but there is still a long way to go here). The upper graph reminds us how big the impact was and still is. We are (finally) experiencing a disruption.

Good for us. **But now what...?**

Consolidation, Infrastructure and values!

In consolidation, there are so many technologies/startups, that in order to survive, need to merge, die or become a "lifestyle" business that isn't going to be able to break records.

Moreover, infrastructure has a growing need for data management! We all know that: data is the queen, yet when it is not shared, consumed and analyzed well, it becomes a weapon and not a tool!. The strategic plans for 5G in most of the countries aren't there yet. Besides South Korea, China and the GCC region. There is a long way to go here.

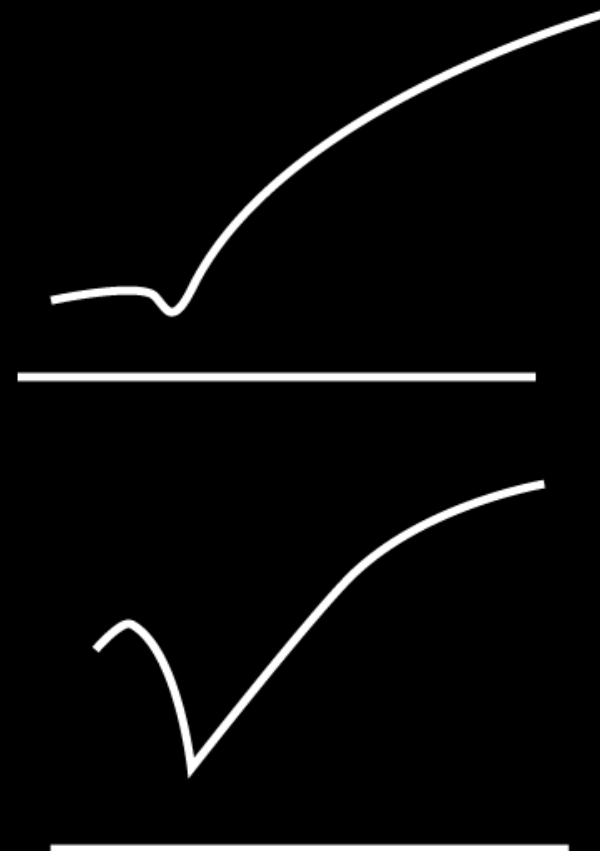
And the values: it's all about the **fans**. We need to serve them first and then our pockets. We need to be responsible for our technology offering in order to create trust and then allow future tech adoption.

Love you all,



Oren Simanian

Founder of Colosseum



2021 SNAPSHOT

More than 7,700 startups are disrupting sports tech in 2021 & dominating the investment sector. [\(Tracxn\)](#)

The global market for sports tech is projected to reach \$40.2bn by 2026, up from \$17.9bn in 2021, registering a 17.5% CAGR during the forecast period. [\(GlobeNewswire\)](#)

Fit-tech continues to register explosive industry growth worldwide, and at-home fitness is a key contributor; during 2021-2026, home fitness expects to maintain a 7.8% CAGR & reach \$11.45bn in valuation. [\(GlobeNewswire\)](#)

Global sports betting is estimated to be worth \$3tn amidst growing legalization across the United States & the emergence of interactive betting platforms. [\(CryptoGlobe\)](#)

winarize

EXPLORE THE *FUTURE OF SPORTS*

Athlete Development
513 Startups

News & Content
271 Startups

Smart Facilities
156 Startups

Broadcasting
325 Startups

Fan Engagement
251 Startups

Winarize is the exclusive data partner of this report

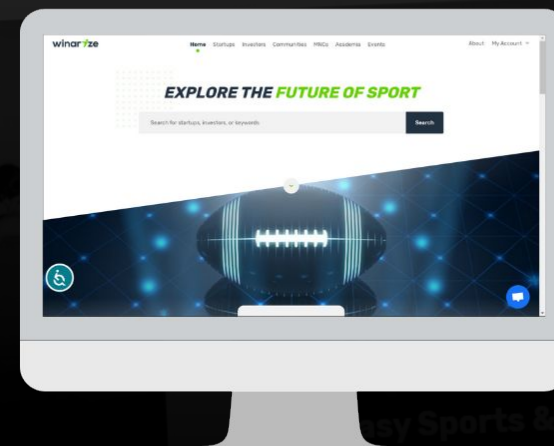
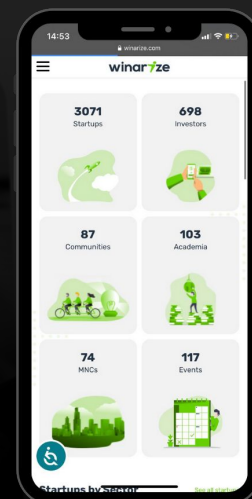
As the world's largest open-source database of sports technology solutions and organizations, Winarize winarize is our partners' preferred engine the watch innovation in sports tech.

3000+ Solutions

650+ Investors

100+ Events

80+ Communities



We closed a partnership with EquaWeb to make our platform compliant.

Investment Trends

\$1.4B



3x in 2021

raised in 183 funding rounds in 2020

Sports Tech Investment in 2021 will be 3 times higher than in 2020






Financing is scaling new heights across all tech sectors and we can thank big money-management firms. Hedge funds, sovereign-wealth groups, mutual funds, pensions, and other non-traditional investors have never been more active than Q2 2021, and they're crowding out venture capitalists. According to Pitchbook, big money managers in the U.S. participated in 42% of all startup financing deals and now account for five of the top ten startup investors by dollar amount.

It's clear that investor vigor is activating a funding frenzy. In the U.S. this year, an average of 126 deals each month generated funding rounds exceeding \$100MM — more than a threefold increase from 2019 (CB Insights). High volumes of investment drive high company valuations and stakeholder returns. Just look at the record-breaking 136 startups that passed the billion-dollar mark during the April-through-June quarter. In Q2 2016, there were only 14.

For sports tech, active global investment is unleashing historic multimillion-dollar funding opportunities and bold IPOs. From venture capitalism to non-traditional investors to accelerators to SPACs, and beyond, everyone is seeking industry involvement for a share of the spoils.

It's time to examine the key players shaping investment trends in sports tech right now.

PRE-IPO ROUNDS TO WATCH

#	Company	Valuation	Series	Date	Funding	Total Funding
1	 sorare	\$3.8B+	B	07/2021	\$532M	\$592M
2	 ZWIFT	\$1B+	C	09/2020	\$450M	\$620M
3	 Fanatics	\$18B+	F	08/2021	\$325M	\$2.7B
4	Dapper	\$7.5B+	D	09/2021	\$250M	\$607M
5	 TONAL	\$1.6B+	E	03/2021	\$250M	\$450M
6	 TEMPO	\$250M+	C	04/2021	\$220M	\$300M
7	WHOOP	\$3.6B+	F	09/2021	\$200M	\$404M
8	STRAVA	\$1.5B+	F	11/2020	\$110M	\$152M
9	OURA	\$800M+	C	05/2021	\$100M	\$148M
10	MPL	\$945M+	D	02/2021	\$95M	\$236M

*This is a slice of many funding rounds that happened in the past 12+ months.

The Latest MVPs

Incubators & accelerators are nurturing the next startup unicorns in sports tech

01. The sports tech accelerator **TechStars** announced in June its new cohort of 11 startups to participate in its 13-week mentorship program; TechStars will receive 6% equity in each company, all valued between \$3-\$5M.

02. Comcast **NBCUniversal** kicked off their first annual SportsTech accelerator program with 10 startups chosen from more than a thousand applicants across 70 countries; founders benefit from direct access to Comcast's distinguished alliance of partners, including NBC Sports, NASCAR, USA Swimming, & more. ([BusinessWire](#))

03. **InStudio Ventures & LeAD** created The Draft incubator in April this year to support sports tech startups primarily in the U.S.; the program is raising \$5M to start & aims to invest in three startups each year related to health, wellbeing & esports. ([FrontOfficeSports](#))

04. Chicago-based VC firm **KB Partners** is raising \$100MM to invest in 25 sports tech startups as of April; investments will range between one and three million dollars each, with a focus on esports, sports betting, fitness, & streaming. ([SportsPro](#))



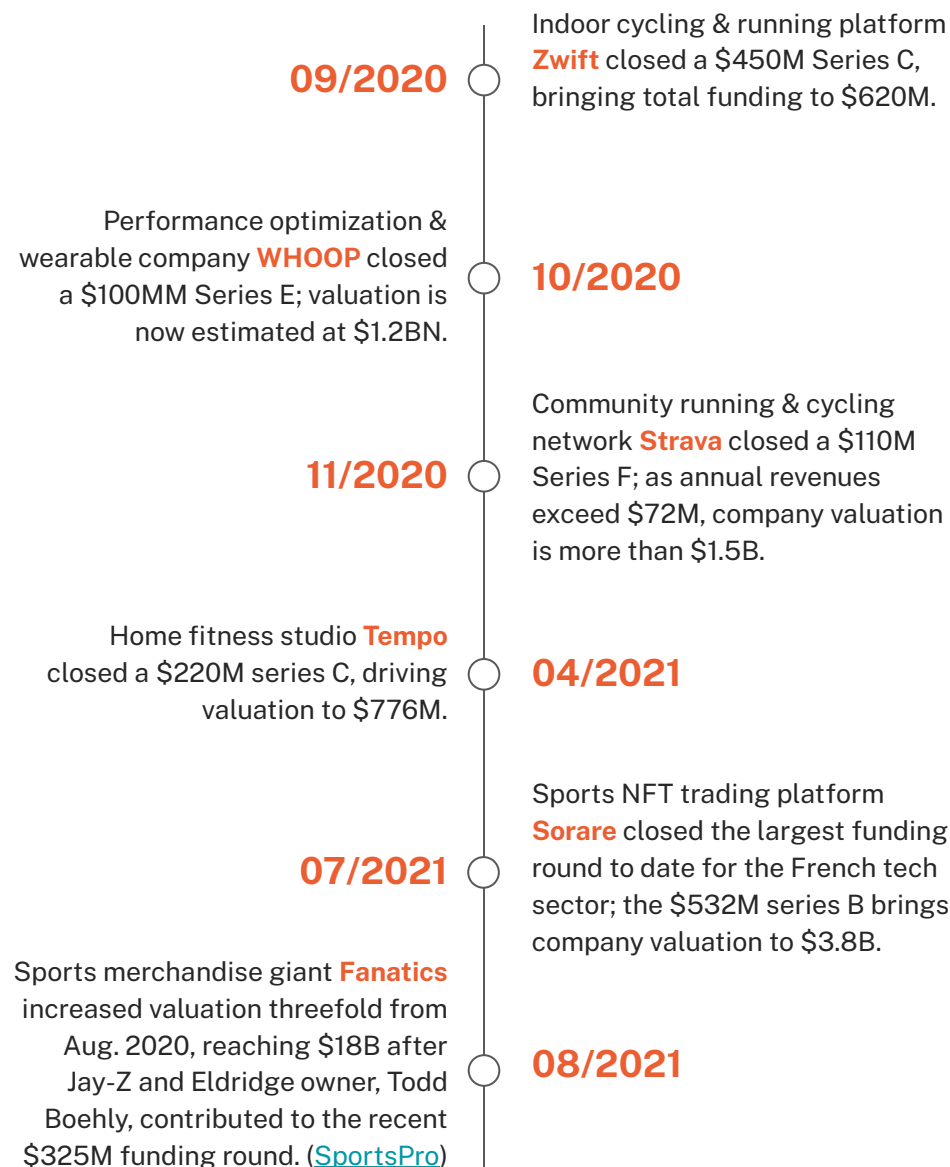
"There's been more innovation in sports tech in the last five years than in the 100 years prior to that,"

Keith Bank, Founder & CEO of KB Partners

Rounding Up

The biggest rounds

(Aug. 2020 - Aug. 2021)



The Big Leagues

Most recent & upcoming IPOs in sports tech

(Aug. 2020 - Oct. 2021)

Mark Wahlberg helped global boutique fitness chain **F45** finalize a \$325M IPO on the NYSE; the company intends to purchase the indoor cycling chain Flywheel using \$25M of the proceeds. ([CNBC](#))

07/2021

Israeli-based sports content platform **Minute Media** prepares for a \$1B IPO with Goldman Sachs after generating \$170M in annual revenues. ([Calcalistech](#))

TBD

Equinox, high-end gym, is in talks to go public through a merger with Ares Acquisition Corp. ([Bloomberg](#))

07/2021

David Tepper invested \$800M in private equity firm **Andalusian Private Capital**; investment will focus on growth companies in media and sports sectors.

([Bloomberg](#))

TBD

Tonal anticipates an upcoming \$4BN IPO after a \$250M series E brought valuation to \$1.6BN; top investors include Amazon Alexa Fund, Serena Williams, & Steph Curry. ([CNBC](#))

TBD

09/2021

Lifetime, a wellness and health club company, raised \$702M in latest IPO ([Startribune](#))

On September 14th, data & analytics company **SportRadar** went public on nearly \$8B valuation ([Sportspro Media](#))

10/2021

SPAC Track

SPACs soared in 2020 as 230 blank check IPOs raised a combined \$70bn. In 2021, 107 private companies used SPACs to go public. But the momentum has since faded; the number of active SPACs dropped 66% in Q2 2021, from 315 to 106. (PitchBook)



KEY THEMES & TECHNOLOGIES

AUTOMOTIVE TECH

The fourth industrial revolution is set to transform what was initiated in the third revolution through adoption of computers and automation and take it further with smart and autonomous systems.”

Peter
COO & CFO of Netsol Technologies on LinkedIn

Minshall

01. The global automotive industry is integrating industry 4.0 technologies at a 36% adoption rate, faster than any other industry. ([Statista](#))

02. 3D printing is simplifying all manufacturing stages & empowering more sustainable mass customization through the use of metal as a base instead of plastic; global revenues are expected to reach \$30bn by 2028, up from \$11bn in 2020. ([Statista](#))

03. Smart manufacturing reduces supply chain complexity enough to slowly enable production to reshore, for the first time in a long time; reduced demand for international shipping is certain to limit global emissions, while avoiding costly tariffs. ([Deloitte](#))

04. Deep learning & neural networks are the latest advancements in AI facilitating future autonomy in automotive machinery, including conversational components needed for self-driving vehicles; global AI will register a 41% CAGR from 2019-2025. ([Statista](#))

05. Recent investments in renewable automotive tech & infrastructure are stimulating innovation that brings us (slightly) closer to mass EV adoption; Advancements in bidirectional charging are a big deal. Once fully developed, these chargers can conserve large amounts of energy through an intelligent 2-way power flow between the grid/home & the vehicle. ([Wallbox](#)).

EXPECT EFFICIENCY & EASE AT LIVE EVENTS

We observe transformation throughout pro-sports & entertainment thanks to current & emerging automotive capabilities. With the latest EV tech, Formula E is spearheading an all-electric future in car racing and accelerating feature improvements like fast-charging batteries for eventual use in consumer vehicles. As drivers experiment with driving techniques and challenge energy optimization, they inform engineers how to progress EV development targeting everyday consumers.



"Combustion engines are over."

Alberto
Co-founder of Formula E

Longo

For sports entertainment operators, automotive tech offers additional opportunities for disruption. Take a look at the Tokyo 2020 Olympics, hosted in 2021, where smart transport took center stage to mitigate numerous logistical challenges. While autonomous vehicles drove athletes and event officials to smart stadiums, hydrogen fuel cell buses provided green transportation for fans. Support robots assisted more than 1,000 visitors in wheelchairs and contributed to heavy lifting efforts. Amidst ongoing covid concerns, smart transport solutions were essential to reducing personnel requirements.

Growing accessibility means stadiums across the globe can soon modernize their own operations. Not to mention, providers can make the most of convenient public transportation by initiating transit validation initiatives. That's what San Francisco's newest stadium did in 2019; at the Chase Center, tickets double as all-day transit passes. Such a convenient offering costs Chase only \$1.46 per ticket, and expands stadium access to visitors with limited transit alternatives. It requires a fraction of the cost — and none of the space — needed for stadium parking garages. As cities strive to motivate public & alternative transport due to climate concerns, transit validation presents a scalable solution. Comparable offerings at European event centers demonstrate its utility and widespread feasibility.

THE SUSTAINABLE MANDATE

“PwC/Microsoft analysis suggests that just AI, and in just 4 sectors of the economy, could reduce annual global emissions by 2.4 gigatons of CO2 e in 2030. This is equivalent to the emissions of Australia, Canada and Japan combined.” [PwC](#)

01. Global sustainable investments (GSIs) increased 55% between 2016 and 2020, surpassing \$35.3tn to account for more than one-third of total assets under management. [\(GSI\)](#)

02. Climate tech growth increased 3,750% across the forecast period 2013 to 2019; By 2030, the Business & Sustainable Development Commission expects SDGs to generate opportunities valued at close to \$12tn, creating 380m new annual jobs. [\(PwC\)](#)

03. Mobility and transportation comprise 63% of climate tech investment; 30 of 43 global climate tech startups valued higher than \$1bn are transportation-focused. [\(PwC\)](#)

04. From carbon capture to bioengineered trees to smart ocean filters to plastic-eating enzymes, budding green technologies encourage diverse conservation opportunities as companies begin to confront low-emission goals.

Sustainability in Sports

“The Arena battery has proved to be the perfect showcase of innovation and has led to increased numbers of business events and specialized tours of the multipurpose stadium. Thus, it has helped add value to the company, the neighboring area, the environment and Arena stakeholders.”
Henk Markerink, President of Amsterdam Arena [\(Stadia\)](#)

For the first time, technological progress is aligning with our planet’s welfare to make sustainability more than just a buzzword. In sports entertainment, smart stadiums present wide opportunities to implement renewable technologies and offer mutual gains to providers & consumers while fostering a hospitable future on Earth.

At today’s most sustainable global sports stadium, [the Amsterdam Arena](#), a retractable roof collects enough rainwater to irrigate the football field, and 4,200 solar panels generate renewable heat to defrost it. Motion-activated LED light bulbs fulfill 80% of stadium electricity needs. Meanwhile, electric car charging stations and train travel discounts offer convenience and motivate sustainable behavior from fans. The list goes on.

As event centers across the globe integrate renewable solutions, they cultivate lasting relationships with attendees & safeguard their uncertain future. According to [Forbes](#), 88% of consumers will be more loyal to a company that supports social or environmental issues. Not to mention, [Harvard Business Review](#) observed companies increase their revenues up to 20% after implementing corporate responsibility practices.

NUTRITION

01. The **global food tech industry** is expected to reach \$342bn by 2027, registering a 6% CAGR during the forecast period 2019-2027; rising awareness of personal health & efforts to combat food insecurity drive industry breakthroughs. ([Emergen](#))

02. **Biological innovation in food** & agriculture may generate global returns in excess of \$1.2tn during the next decade; plant-based substitutes are growing fast, increasing global sales by 72% in just two years. ([McKinsey.IFT](#))

03. **Since 2020**, 17% of global consumers have adjusted their diet specifically to improve immunity and personal health, often using nutraceuticals. ([Nutraceutical Business Review](#))

“Where previously the most disruptive technologies were concentrated on agriculture and delivery, now there is a focus on transformation (consumer-packaged goods innovation, cloud kitchens, and future foods).” ([Plug and Play](#))

04. **Nobel Prize-winning gene-editing tool CRISPR-Cas9** can enhance crop yields & nutritional value while reducing food waste, allergens, & disease prevalence; in the next 10 years, we can expect mass production of CRISPR-modified produce in the U.S. & beyond ([Institute.Global.NASDAQ](#))

05. **AI-driven diet & nutrition platforms** are on the rise among health-conscious consumers, enabling expansion in the personalized nutrition market; global revenues are expected to surpass \$19.7bn by 2027, up from \$8.1BN in 2020. ([CBInsights](#))

06. **Blockchain technologies** exhibit new applications to improve food traceability & producer transparency as 6 in 10 consumers express interest in learning where their food originates. ([Innova](#))

SPORTS NUTRITION

“Formulators increasingly are exploring the botanical world for naturally derived sports performance boosters and post exercise recovery solutions.”

([Nutraceutical Business Review](#))

Rising athletic performance standards demand innovative nutritional solutions to optimize player fitness. In food science, innovation gives rise to newly effective alternative proteins, energy bars, performance drinks, & supplements, driving global sports nutrition revenues beyond \$115BN by 2026. ([PR Newswire](#)).

Plant-based proteins prevail amidst the popularization of veganism and functional nutrition. In performance nutrition, global plant-based product launches increased 25% during 2016-2020 (Mintel).

Athletic giants including Tom Brady, the Williams sisters, and world-record-holding powerlifter Patrik Baboumian are shifting to veganism, and there are many reasons why.

According to Nutrients, a recent study observed superior nutritional fitness among plant-based athletes who use B-12 supplements compared to their meat-eating counterparts ([Forbes](#)). Many plant-based foods are actually higher in protein than meats, and antioxidant and anti-inflammatory properties promote more effective training and recovery while increasing career longevity. Nutritional supplements compound these benefits.

From pea protein to curcumin, organically-derived performance boosters are displacing artificial ones to strengthen muscle growth, energy, and memory. Due to an emphasis on weight management, stevia and flavor technology enable the production of low-calorie alternatives without compromising on taste. Meanwhile, 3D printing, also known as additive manufacturing (AM), serves as a precise method of enhancing nutritional content in foods, beverages, and targeted vitamins. By 2025, experts anticipate AM sports nutrition to penetrate mass markets ([Comcast](#)) and broaden the sector's scope.

Through the evolution of food tech, nutrition establishes its predominance in the fitness and health ecosystem.

REDEFINING HEALTHCARE

01. **Analysts forecast global healthcare revenues** to exceed \$2.6tn by 2025, up from \$2tn in 2020; applications of AI & telehealth are critical engines of growth. ([HealthcareDive](#))

02. **Digital health investment** & venture capitalist activity tripled between 2017 and 2020, accelerating technological innovation across all health sectors. ([McKinsey](#))

03. **As of July 2021,** consumers are using remote health services 38 times more than pre-pandemic, expanding specialty care access, including mental health services to underserved populations. ([McKinsey](#))

04. **Long-term health monitoring capabilities** combine wearable devices, IoT technology and AI-powered cloud computing to promote holistic wellness & proactive care models.

05. **Global advancements in genomics** introduce broad applications, including personalized medicine, disease prevention, & even genome editing; the industry anticipates an 11.2% CAGR during 2017-2030. ([Goldstein Research](#))

06. **3D printing** is transforming medical equipment accessibility & precision, while decreasing healthcare costs; by 2025, the US market for 3D-printed medical equipment is likely to surpass \$2.78BN. ([The Business Research Company](#))

60%

of physicians are prioritizing a shift to prevention and wellbeing.

65%

of people are now more likely to consider their health in day-to-day decision-making.

THE SCOPE OF SPORTS MEDICINE

Accompanied by the global rise in sports participation is the incidence of injury. However, invasive procedures and prognoses that might've ended an athlete's career a few decades ago are nearing obsolescence. Innovation in sports medicine enables faster and safer rehabilitation, and for those with physical and mental disabilities, there have never been more opportunities to pursue athletic achievement. Sustained industry growth expects to reach \$15bn by 2027, up from \$8bn in 2019. ([Grand View Research](#))

Emerging technologies in sports medicine prioritize personalization and prevention more than ever. When combined, wearable monitoring devices, GPS systems, AI-powered video analytics, and other technologies can collect more than 1,000 performance metrics per second ([Comcast](#)). Coaches and doctors can leverage this data to monitor athletes long-term and devise precise, individualized recommendations for rehab & recovery.

Meanwhile, regenerative therapeutics and assistive wearables go beyond performance monitoring. Bionic exosuits support improved mobility, gait quality, and endurance, while platelet-rich plasma therapy (PRP) offers one method of tissue regeneration. Emergent biointerfaces are equally exciting. Nanobots and dissolvable bioelectronics like nanomesh tattoos facilitate minimally invasive targeted medication delivery. Ingenuity in sports medicine is active and expanding to address mental health concerns as well.

Amidst unrivaled performance pressures and difficulties due to covid, an estimated 35% of pro-athletes face mental health crises today ([Donovan Mental Performance](#)). To raise awareness, Simone Biles and Naomi Osaka are sharing their experiences publicly. In 2020, Michael Phelps partnered with the digital therapy platform TalkSpace to do the same. Through an HBO documentary, The Weight of Gold, Phelps details the pressures of Olympic competition and encourages seeking help. Luckily, athletes today have access to a growing number of AI-powered virtual therapy and meditation platforms that promote a holistic view of personal wellness. Furthermore, the upcoming integration of advanced VR & AR technologies will empower additional healing capabilities in a virtual setting.



“So, we have to protect our mind and our body, rather than just go out there and do what the world wants us to do.”

Simone Biles

DIGITIZING MANAGEMENT & ADMINISTRATION

01. Digital ecosystems encourage inter-industry collaboration to establish shared value through renewed consumer value propositions; by 2025, the integrated network economy is projected to generate spending of \$60tn. ([McKinsey](#))

02. Connected planning platforms facilitate live interaction between people, data, & plans to fuel transparent & informed decision-making; IoT & AI capabilities narrow the distance between planning & decision execution to improve operational efficiency.

By offering products and services that individual companies could not create on their own, ecosystems draw in more and more customers, which creates even more data, which allows artificial intelligence (AI) to fashion even better offerings.” [McKinsey](#)

03. Entrepreneurship has never been easier or more accessible thanks to B2B platforms offering tools in fintech & cloud management; global B2B marketplaces expect to generate sales in excess of \$3.6tn by 2024. ([Tech Crunch](#))

04. Hybrid work models require new strategies to foster corporate community; emerging social platforms respond with informal interaction & team-building opportunities for remote colleagues. Companies with healthy cultures generate shareholder returns as much as three times greater. (McKinsey)

“By providing all the processes that both sides need in one place, [B2B marketplaces] eliminate the chaotic paper, pen and phone approach that many businesses still rely on for their procurement.” Sova VC Partner Alex Chikunov in Forbes

05. A recent outgrowth of corporate wellness platforms seek to address growing mental & physical challenges to reduce healthcare costs & motivate productivity; these platforms will likely register a 9.5% CAGR during 2021-2030. ([Globe News Wire](#))



REMOTE COACHING GOING VIRAL

“We’re just really looking for ways to spread coaching and instruction to people who wouldn’t otherwise be able to get it, especially from NBA coaches”

Steve Kerr, Coach of the Golden State Warriors

Like many sectors, the future of coaching and sports admin is digital — and likely to generate impressive gains. Pandemic shutdowns accelerated sports institutions’ adoption of digital coaching platforms. Integrating streaming technologies, AI-powered cloud computing, and more drive growth projections beyond \$822MM by 2027, up from \$148MM in 2019 (Verified Market Research). Digitized training resources establish a pipeline to aspiring athletes worldwide.

Pandemic restlessness inspired coaches and sports organizations to produce interactive training resources not only for players but fans as well. Using eCoach, 40 NBA coaches, including Golden Gate Warriors’ Steve Kerr, developed specialized online courses and training routines covering everything from defensive principles to data analytics. Subscribed users gain unlimited access to the wisdom of renowned coaches as well as NBA game footage to showcase teachings in action.

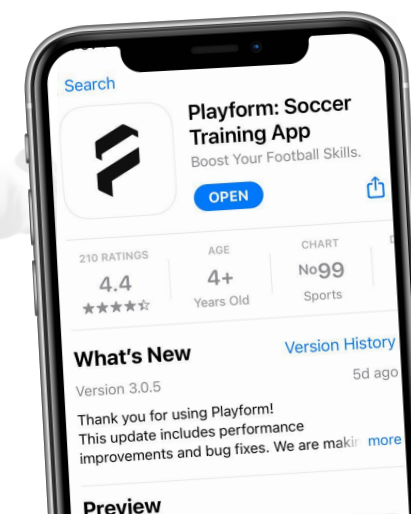
The NFL took a similar approach last year and partnered with Nike to establish their teaching platform, 11-Online, featuring top-performing players like Odell Beckham and Saquon Barkley. The platform targets student-athletes and offers comprehensive instruction on all 11 football positions free of charge. A growing number of global sports are capitalizing on this opportunity for interaction & education.

Beyond building revenue streams, digital coaching platforms engage aspiring athletes worldwide — many without access to training resources otherwise. Platforms enable coaches and athletes to reach untapped segments and encourage their entrance into the sports world as as spectators, players, or both.



Playform is the first digital coach for youth soccer players, providing personal training based on real-time feedback, powered by computer vision and AI technology. The platform enables youth athletes, using only a smartphone, to gain access to technology previously only available to professional-level athletes with dedicated expensive hardware such as cameras and wearables.

Playform measures players while they carry out a series of drills and produces real-time results for an integrated set of physical, technical, and mental skills. The platform analysis engine captures hundreds of data points on every drill execution and analyzes all this data in real time on the smartphone. Once there is enough data on the player’s skills, Playform builds a development strategy to maximize their full potential, which is then offered to the player through a set of personalized workouts.



CONSUMER ELECTRONICS

Digital ecosystems are a driving force for new growth – a value-added chain that binds customers in the long run... Apple has created its own ecosystem with iPhone, iPad, Mac, Watch, TV and Music, all perfectly matched.”

(Statista, 2020)

01. Wearables comprise one of the fastest growing segments of consumer electronics & will likely surpass \$93bn in global spending by 2022, up from \$46bn in 2019. ([Statista](#))

02. Global home fitness equipment anticipates a 6.2% CAGR during 2020-2025 ([OpenPR](#)) thanks to a 49.6% increase in the percentage of active adults who perceive home fitness facilities as the best way to stay fit. ([RunRepeat](#))

03. By 2025, global smart home spending will reach \$182bn as an estimated 57% of U.S. households integrate smart home technologies from connectivity, appliances & entertainment to security, energy management & beyond. ([Statista](#))

04. CO2 emissions are accompanying the rise of smart homes & IoT devices; 1.4%-3.2% of global greenhouse gasses emanate from consumer devices, the internet, and large data centers. ([Future Today Institute](#))

05. Global VR & AR anticipate an 18% CAGR during 2021-2028 as emerging devices enable interactive exploration of artificial environments from anywhere; integrating authentic sensory experiences is the next step. ([Grand View Research](#))

BRING THE IN-STADIUM EXPERIENCE...

“The COVID-19 pandemic has significantly weakened physical entertainment, reinforcing the value of both immersive and interactive technologies to compensate for sports’ diminished visual and social experiences.” (PwC)



Elevating the live sports experience is more essential than ever. While pervasive covid shutdowns threaten the future of global sports entertainment as we know it, fan engagement technologies may be a key survival strategy for providers.

VR technology is spearheading efforts to engage fans, at the stadium and at home. Using VR headsets, users can customize their entertainment experience from almost anywhere — and the possibilities are exciting. Fans can socialize with one another, and even compete against AI-powered robots. What’s more, users can interact directly with their favorite players and use real-time data to monitor their performance. Supplementary headsets and sensory equipment including spatial audio platforms unleash additional capabilities to bring spectators closer to the action than they have ever been.

AR and VR technologies transcend entertainment purposes to enable players and teams to build lasting fan relationships & give teams an edge in driving stadium attendance back to capacity later on. Social media introduces additional opportunities for close interaction, as discussed on page 28.

... ANYWHERE

DIGITAL DEFENSE

We have a responsibility to make security easy for the end user to adopt. As we move into our new security frontier, this is more important now than ever.”

Alfred Bonilla

Cloud Access Management Director at Mastercard

01. Cyber attacks are more prevalent than ever & could amass global annual costs as high as \$10.5tn by 2026; the rising number of cloud & edge platforms & connected IoT devices generate new avenues for assault. ([CyberSecurityVentures](#))

02. Zero-trust digital security models reduce the surface area for attack with explicit access boundaries; 60% of businesses will replace current virtual private networks (VPN) with zero-trust architecture by 2023. (Gartner)

03. Blockchain enables standard decentralized security protocols to supplant less-secure end-to-end encryption; during 2019-2025, the blockchain will register a global CAGR greater than 69%. ([Techiury](#))

04. Multi Factor Authentication (MFA) is a highly-effective cybersecurity strategy; Google & Microsoft security specialists reported MFA as capable of blocking more than 75% of targeted attacks & 99.9% of automated attacks. ([Cybertech Accord](#))

SPORTS NEED CYBERSECURITY

“Our multi-stakeholder approach to child safeguarding and Tuum’s expertise as a leader in blockchain technologies makes this a formidable partnership to realize the goal of using digital tools to keep sport safe for all”

Lerina Bright, Executive Director of Mission 89

Cybersecurity in sports has never been more essential. Emerging tech invariably establishes new vectors for attack, and no one is impervious. Providers seeking innovative security solutions drive robust industry growth, likely to reach \$400BN by 2027 ([PRNewswire](#)). Open innovation and cross-industry collaboration propose new relevance for existing cybersecurity tech.

Just look at blockchain. The leading tech disruptor started in cryptocurrency and is now confronting endemic child trafficking in global youth soccer.

Swiss advocacy group Mission 89 is partnering with Tuum Technologies and premier blockchain network Elastos to make sports safer for youth participants. The project will leverage blockchain-based decentralized IDs (DIDs) to verify sports officials’ identities and constrain trafficking attempts during recruitment.

Unfortunately, the rise of cyberattacks in competitive sports threatens additional stakeholders across the \$80bn industry ([ATT](#)). Big money and big data make pro-sports a big target.

Last year, the third most valuable global soccer team, Manchester United, fell victim to an organized attack that lasted two weeks. According to the U.K’s National Cyber Security Council (NCSC), 70% of sporting organizations among 57 surveyed experienced at least one annual attack as of 2020 — we expect more to come.

“We’ve seen more and more football clubs and other high-profile sporting businesses targeted by things like ransomware,”

Ciaran Martin, NCSC Former CEO

IoT technologies inadvertently empower hackers’ disruptive potential in smart stadiums by linking physical, digital, and operational components. Safeguarding against stadium-wide shutdowns, major data breaches, or worse requires allocating resources to digital security systems and bold defense strategies. Zero-trust architecture, blockchain, predictive analytics, and other cyberinfrastructure improvements are essential.

FINTECH MOVES FORWARD »

“As people seek new ways of convenience, alternatives to current systems and safer alternatives for their precious data, the world of fintech will continue to evolve.”

Dmitry Dolgorukov, Co-founder & CEO of HES Fintech

01. The introduction of Apple Pay in 2014 commissioned market growth for alternative mobile payment platforms; in 2020, 1.3bn global users generated revenues in excess of \$1.4tn, and they're likely to reach \$4.7tn by 2025. ([BusinessofApps](#))

02. 18% of financial service providers released new contactless payment methods in 2020 & more are emerging this year; collaboration between fintech and biometric tech gives rise to future wearable payment technologies. ([Forbes](#))

03. Today, 46% of consumers access finances through exclusively digital channels, and 77% of traditional financial institutions intend to expand their digital offerings soon; emerging platforms will integrate broad capabilities, including cryptocurrency investment, bill negotiation services, & more. ([Fortunly](#))

04. AI & ML enhance fraud detection, customer service, credit scoring, & more; AI maintains a 38% market share in global fintech, & its embedded value will register a 23.4% CAGR until 2025. ([Forbes](#), [Globe News Wire](#))

05. Decentralized finance (DeFi) replaces investment, payment, & bank intermediaries with blockchain powered services to make financing solutions accessible to consumers unaffiliated with traditional financial institutions; expected growth is exponential. ([Payments Journal](#)).

PURPOSE BEYOND PAYMENT

From media to esports, talent acquisition to merchandise, **fintech is motivating evolution across the sports landscape**, and addressing consumer needs like never before.

Broadcasting is one of many domains poised for disruption by blockchain. Media providers can take advantage of comprehensive viewing data and align content more closely with personalized consumer preferences. Teams, athletes, and event providers benefit from targeted interactions with audiences larger and better suited to enjoy their offerings. Meanwhile, sports equipment and merchandise distributors extend the value chain further as they use insights to develop effective advertising strategies. As of 2020, **roughly 55% of media operators share plans to integrate blockchain soon** ([FinExtra](#)), fueling growth across related sectors.

During training and live sporting events, blockchain can accumulate and monitor performance data. While fans stay current on their favorite players, recruiters access a standardized network of objective player stats. Building transparency is crucial to simplifying the talent acquisition process and dismantling reductive biases.

For example, to ensure financial bonuses are awarded to the most-deserving players, blockchain can supplant subjective judges and select recipients based solely on data. Through growing applications, fintech promotes equity and objectivity in sports competition everywhere, launching fresh revenue streams and opportunities for fan engagement.

See how NFTs and fan tokens are driving the creation of sports trading marketplaces on page [38](#).

SECTOR DEVELOPMENT

WEARABLES ARE WINNING

When it comes to wearables, we've covered the basics so far; performance feedback and monitoring capabilities give rise to new possibilities for athlete training, offering more personalization and efficiency than ever before. Lower price points and the growth of 5G networks enable amateur and recreational athletes alike to access training resources on par with elite competitors. Meanwhile, data management and analytics operators are revolutionizing sports betting and esports platforms thanks to the surge in real-time performance metrics collected by wearable devices. Read more about the data boom on page [31](#), Sport Becomes Science.

\$5.5BN

expected growth of the smart fabrics market by 2025-, registering a 30.4% CAGR over the forecast period 2015-2025 ([GrandViewResearch](#)).

Consumers today have access to more than **1,000 wearable devices**, marking an exciting transition from technology we hold to technology we wear. Industry disruptors are developing devices to target every aspect of physical performance imaginable, going far beyond the classic smartwatch. From earbuds to headbands to smart fabric to adhesive sensors to rings, athletic training capabilities are now unrecognizable from just a few decades ago. As awareness for holistic wellness grows, **wearables enable users to construct a personal ecosystem to deliver data insights on how behavioral and physical changes can influence user fitness as a whole.**

A promising future for biotech ensures the advancement of wearables of all kinds. In particular, we observe the rise of smart threads, capable of adapting to user posture and moving with skin as comfortably as clothing.



We're literally trying to sew the same kind of highway of data streams that you can normally find in a computer chip, but do that in clothing. And we've found — and we have patented — both the materials, both the manufacturing method and the devices that actually make these sensors."

George Sun, CEO of Nextiles



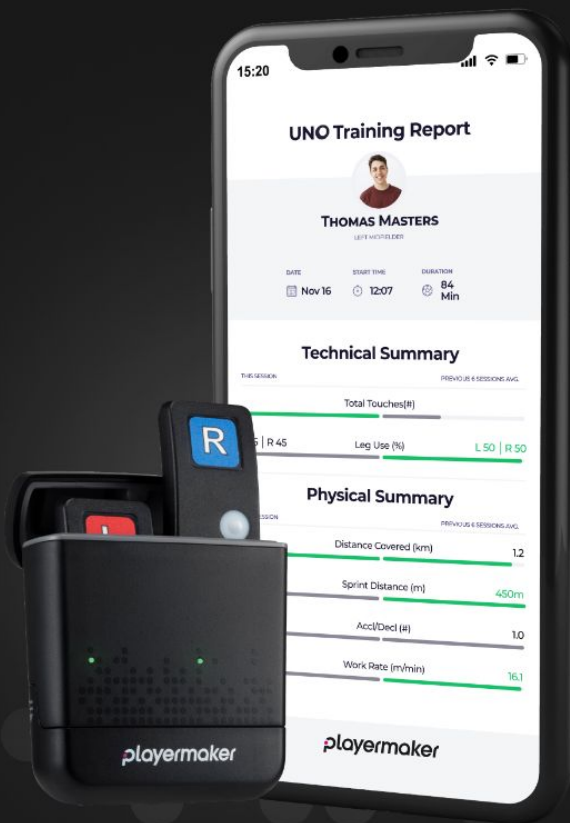
Capable of analyzing athletes' motion, pressure, torque, and more, Nextiles draws attention to what's working, what's broken, and what to aim for. For the first time, athletes can leverage this technology to measure forces derived directly from their body through metrics like velocity and strain. As progress continues, mainstream consumers will likely gain access to similar smart fabrics in the next several years.



TRANSFORMING FOOTWEAR INTO **SMART FOOTWEAR** AND MEASURE FOOTBALL LIKE NEVER BEFORE.

WHAT IT MEASURES

- ✓ TOUCHES
- ✓ SHOT-POWER
- ✓ DRIBBLES
- ✓ SPEED
- ✓ PASSES
- ✓ DISTANCE
- ✓ POSSESSIONS
- ✓ AGILITY



Smart sensors located on the feet to measure your **technical** and **physical** performance, providing players with personalised insights to improve their game.

WWW.PLAYERMAKER.COM

HYBRID HOME FITNESS

The pandemic energized the at-home fitness industry, and its momentum is poised to continue.

By 2028, the global market for home fitness equipment is estimated to reach **\$14.74B** (GlobeNewswire)

Pandemic-induced gym closures forced consumers to modify their fitness routines for at-home use, **driving a 170% increase in equipment sales**. Amid rising efforts to combat global obesity, cardiovascular equipment maintains the largest market share (GlobeNewswire); from March to October 2020, treadmill sales grew 135% (Washington Post).

Thanks to IoT technology, emerging home equipment offerings complement wearable devices and performance feedback platforms like never before. Separate devices can now seamlessly communicate data insights and leverage AI to provide accurate and real-time guidance. Even in the absence of a live trainer, users can enjoy a personalized and targeted fitness experience.

As gyms and fitness clubs reopen their doors, the convenience and efficiency of home fitness offerings have driven nearly 60% of surveyed users to decide against renewing their on-site memberships (CB Insights). Even still, recent research conducted by McKinsey reports 50% of consumers to be less satisfied with their remote fitness routines than pre-pandemic due to a lack of social fulfillment in a digital environment. Going forward, social functionality will serve as the ultimate differentiator in an increasingly competitive market.

For providers who do manage to cultivate a sense of community remotely, success has been substantial.



232%

growth in sales during the pandemic

2.3M+

subscribers now: 350% more than 2019.

Live and on-demand classes led by engaging trainers motivate users to persevere through challenging exercises as they would in person. At the height of the pandemic, Peloton partnered with ESPN to produce the first-ever All-Star Ride, featuring 16 pro-athletes across the sports landscape. Offerings like these have boosted popularity immeasurably, providing fans the exciting opportunity to ride alongside the professionals and track progress on an interactive leaderboard.

With this in mind, the home fitness industry is witnessing an outgrowth of collaborations between equipment operators and renowned instructors to maximize the potential of home fitness while building global communities of users and trainers. In addition, consumers' preference for access to multiple providers means subscription-based aggregators are likely to become the standard.



Enabling flexible participation in live and remote classes priced at one fixed subscription fee. After ClassPass's valuation exceeded **one billion dollars** during 2020, the brand achieved unicorn status, solidifying the value of its model and inspiring emerging competitors to follow suit.



Helping You Become a Movement Professional!

The material on the Kinesiology & Anatomy is complex and difficult to understand using only books and pictures. Muscle and Motion's videos & 3D animations revolutionize the learning experience.

Muscle and Motion offers a range of apps helping both professionals and enthusiasts in the sports, health, and fitness industry spheres in over 100 countries worldwide. With a video library containing over 4000 educational videos with detailed 3D animation, Muscle and Motion make it easy for users around the world to understand muscles and their movements!

The Company developed 4 professional apps, Strength Training, Anatomy, Posture, and Yoga. For example, the Strength Training app contains over 1000+ exercises with full anatomical analysis and common mistakes to avoid, 3D Anatomy & Kinesiology in motion, workout plans builder, and more than 200 theory videos, all in one app.

4M+

followers on social media



2.3M



1.2M



300K

Today, Muscle and Motion is one of the most complete resources on muscular and anatomical dynamics in the world. The team includes physical therapists, movement experts, fitness trainers, and highly skilled animators. This enables Muscle and Motion to provide their users with the most advanced and accurate programs in the world of movement anatomy.



My friends over at @muscleandmotion created a musculature breakdown of all my movements. It's a cool visual for you to see..."

The Rock on [Instagram](#) in 2019

NEW! Workout Plans Builder

Train Your Clients Smarter!

Following the worldwide Corona Virus pandemic, the Company has developed a unique feature which allows users to build customized workout plans and assign these plans directly to their clients online.

Users get full access to Muscle and Motion's library of over 1000+ detailed exercises, which includes detailed 3D animation and videos, voice instructions, common errors and full anatomical analysis, to create perfect workout plans. Trainers can now be sure that clients perform exercises correctly, providing them with well-rounded, comprehensive workouts to enhance their well-being, fitness levels and overall health.



MORE THAN A GAME: THE RISE OF SMART VENUES

Elevating the fan experience has never been more crucial. While covid shutdowns threatened the future of live sports entertainment, cultivating fan loyalty is the key to safeguarding its survival. Luckily, the next generation of event stadiums is fast approaching with a promise to deliver unrivaled engagement possibilities using AI, VR/AR, drones, data, NFT ticketing, and so much more.

The global market for smart venue is on track to reach

\$18.23BN

by 2025, registering a 21.53% CAGR during the forecast period 2021-2026

[\(Mordor Intelligence\)](#)

In 2020, the smart stadium segment accounted for a

57%

revenue share within sports tech (Mordor Intelligence)

We've already discussed how stadiums are implementing sustainable and automotive tech to reduce the environmental impact of live entertainment while streamlining operational efficiency. But that's not all. Stadiums around the world are collaborating with technology providers to establish cutting-edge media and entertainment hubs. However, large-scale streaming and broadcasting require advanced wifi connectivity --one of the largest challenges currently facing stadium operators. The next-generation wireless standard, Wi-Fi 6 fortunately offers scalable solutions.

In partnership with end-to-end tech provider Cisco, the LoFi Stadium in LA leverages 2,500 access points of WiFi 6 -- the largest deployment of such technology in a sports venue to date. Attendees enjoy faster internet speeds and four times greater bandwidth than the previous wifi standard, promoting immersive fan experiences.

Meanwhile, LoFi operators are thrilled to be the first major U.S. stadium to produce a functional digital twin. In doing so, they gain access to countless real-time data insights to enhance the spectator experience while managing risk.

"We envision SoFi Stadium not just hosting world-class events like the Super Bowl and the Olympics, but also serving as a dynamic media platform. Our partnership with Cisco will set a new standard for the fan experience through cutting-edge technology that will enhance the way guests interact with live events, not only at SoFi Stadium but across all of Hollywood Park."

Jason Gannon, Managing Director of SoFi Stadium & Hollywood Park

Stadiums across the globe are slowly but surely transitioning toward a smart future, driving demand for increasingly advanced software and service solutions. The once-analogue stadium experience is transitioning to incorporate virtual offerings capable of reaching an unlimited global fanbase.



BROADCASTING & MEDIA CONTENT

We can't discuss smart venues without also addressing the influence of recent disruptors in broadcasting and content creation. Outside the walls of event stadiums, digital twins made history during this summer's Tour de France. Event provider ASO partnered with NTT to empower the real-time delivery of more accurate and comprehensive race insights than ever before. Across 3,400km, countless access points computed millions of data points, animating immersive digital experiences and visuals for worldwide fan enjoyment. Industry competitors have taken note of NTT's breakthrough usage of IoT and edge computing with hopes to achieve similar results across alternative domains.

It's safe to say there is no shortage of innovation or opportunity in broadcasting and sports content, right now. Global innovators are transforming entertainment possibilities through AI-powered video analysis technology. Stakeholders can compound video data points with insights collected from wearables and connected equipment, delivering endless data all the time.

While most fans can only dream of sitting courtside, offerings like the [Golden State Warriors 'Dub Hub'](#) democratize previously-exclusive fan experiences. Using LED video screens, Dub Hub enables fans to speak directly with players as they enter the home court through the tunnel. Content creation and broadcasting capabilities unleash all-new revenue streams for sports institutions, contributing significant value to all levels of the fan experience. Another example is Formula One's Paddock Club, introduced in 2020 to give fans a virtual two-day Paddock Club pass for a fraction of the price of the in-person trackside experience.

Sports content going forward must incorporate opportunities to involve fans themselves and enable personalized interactions with athletes. Augmented reality and virtual reality are critical to facilitating this transformation. However, while VR headsets remain prohibitively expensive, AR experiences, including smartphone filters and overlays, continue to be a more accessible alternative.



LiveU enriches live sports coverage with its end-to-end live video streaming and remote production solutions.

LiveU's high-quality live IP video transmission solutions offer greater reliability and flexibility while optimizing live production costs. Teams can go live from anywhere with the production remotely produced from the central studio – at a fraction of the cost of satellite and fiber.

Designed from the ground up to unlock 5G and 4G potential, LiveU's solutions enable coverage from the most crowded venues with the highest bandwidth and super low latency. Bringing fans closer to the action, the latest solutions also support multi-camera cloud productions.

LiveU in Numbers

15

years of innovation

4500+

customers

150

countries

With over 4500 customers in 150+ countries, LiveU's technology is the solution of choice for global broadcasters, sports and entertainment, streaming live video to TV, mobile, online and social media. At this year's Summer Games, LiveU supported its worldwide customers live from Tokyo with over 1,300 units.

LiveU offers a range of flexible live video packages from Pay-As-You-Go to its all-inclusive live video subscription service, LiveU 360°.



Sky Deutschland & Vodafone teamed up with LiveU in Bundesliga 5G test



LiveU's LU800 in action at the Australian Open










PlaySight's platform is validated by the best and used every day across all levels of sport, with thousands of teams and hundreds of thousands of athletes and fans across the world.

Selected twice by Fast Company as one of the Most Innovative Companies in Sport, PlaySight installs high-performance connected and portable cameras to capture all sports action, powered by a comprehensive platform which includes: automated video production, instant replay, multi-angle technology, pro-level analysis, full integration, content generation and more.

PlaySight technology is a true 360° platform which caters to the needs of athletes, coaches, teams, leagues and fans all over the world through performance analysis, instant replay, tagging, automated broadcasting and highlights, data and analytics.

The company offers both fixed and portable solutions. PlaySight's fixed systems are able to turn any sports court, gym, rink and facility into a permanent SmartCourt venue with Smart with its connected PRO platform. While the portable GO solutions allow partners to record video, live stream and capture all practices, games, matches and tournaments without the need for cabling or network infrastructure, recording and analyzing pro-level video while live streaming events easily and efficiently with the first all-in-one portable sports solution of its kind.

-  **MULTI-ANGLE VIDEO REVIEW**
-  **VIDEO MONETIZATION TOOLS**
-  **LIVE STREAMING / AUTOMATIC PRODUCTION**
-  **SCOREBOARD INTEGRATION**
-  **VIDEO REPLAY / CHALLENGES**
-  **MANUAL EVENT TAGGING**
-  **CREATE, EDIT & SHARE VIDEO CLIPS**
-  **FIXED AND PORTABLE VERSIONS**



Two-time most innovative company in sports



Pixellot

AI-AUTOMATED VIDEO AND ANALYTICS

Pixellot's end-to-end solutions make it quick and inexpensive for federations, leagues and clubs, to quickly be able to broadcast games live and on-demand and charge for the content.

Facing a New Challenge

The inability to have audience in attendance during sporting events has been not only bad for fan participation, but also has had a serious impact on much needed revenue generation for organizations of all sizes. For lower league teams and niche sports whose games are not broadcast, these problems are exacerbated to a serious degree.

AI to the Rescue

Pixellot's AI-automated video and analytics solution ensured fan participation, even when stadiums were without attendance, enabling viewing packages to offset lost revenue, and bringing other added value propositions such as coaching tools. This democratization of sports has brought about a significant change in the

coverage of so many teams and leagues. Local fans, parents and family members never need to miss a game ever again.

Rapid Growth

The NFHS Network is an online, subscription-based platform that streams live or on-demand US High School sports events. As a result of COVID-19, families were not able to cheer for their student athletes and thousands of high schools installed Pixellot cameras at their gyms and fields resulting in a jump in viewership. This also provided schools with a needed source of revenue as tickets and concessions were prohibited during the last school year.

Expanding to Grassroots and Youth Sports

The launch of Pixellot Air and Pixellot Action, two new portable camera solutions enable tracking and analysis of all games and training sessions, both on and off the club facilities. Once linked to the cloud, you can edit the footage, analyze it and stream the game and the highlights.

WWW.PIXELLOT.TV



Introducing New Products



Pixellot DoublePlay -
Launching a new product for Baseball and streaming two MLB Leagues



Pixellot You - Launching a new product line with the world's biggest platform for youth sports management.



Pixellot Air -
Barça Innovation Hub. Co-developing new coaching solution.



Pixellot Action - New automated solution using an action camera and GoPro's Open API platform

Streaming Entire Leagues



Live Coverage of Entire Leagues!

SOCIAL MEDIA BRINGS BRAND AUTONOMY

Social media introduces an enormous potential for beloved players to maintain direct communication with fans and generate new revenue streams through branded partnerships. The data speaks for itself; 72% of sports fans use social media to remain up-to-date on the latest in sports, and 68% say digital content makes them feel closer to their favorite players and teams ([Comcast](#)). In the absence of live sporting events due to covid, social platforms provided a critical forum for players to elicit fan interest with alternative content. Look at soccer sensation Cristiano Ronaldo, who took lockdown as an opportunity to broadcast home workout regimens, Q&A live streams, and more to give fans a look behind-the-scenes at his life on and off the pitch. With more than 300 million followers worldwide, Ronaldo raked in \$40 million from Instagram alone in 2020.

Unlike ever before, social platforms are establishing a direct pipeline between players and fans, diminishing the need for intermediary brand management. Personal autonomy thus empowers athletes with more and more opportunities to collaborate with external organizations of their choosing. In 2020, Michael Jordan partnered with Netflix and ESPN to produce a 10-part docu-series, *The Last Dance*; global viewership exceeded 28 million. Thanks to the rise of content creation platforms and broadcasting technology, even small-scale athletes capitalize on similar opportunities.

As they grow their digital following, famed players become the face of more than just their sport. Today, the influence of sports stars reverberates across fashion, food, music, social justice movements, and more recently, mental health. In a 2020 ESPN survey of 873 sports fans, 71% of respondents supported teams and athletes who advocate for social issues ([ESPN](#)).

The NBA took this responsibility seriously in their 2019-20 season; players and the league stood united in efforts to promote social reform following the murder of George Floyd. This year, the NBA went further, establishing the annual Karim Abdul-Jabbar award to recognize determined social justice warriors.



“Having our games highlight the continuing discussion about these issues, I think moved the conversation forward, well beyond where we would have been able to move it had we not done the games. I'm satisfied that the players as well believe that they did the right thing and decided to play.”

Michele Robert, Executive Director of the NBPA

Alongside the pursuit of equality, mental health challenges have taken center stage in sports this year. Amid the withdrawal of Naomi Osaka from Wimbledon, and Simone Biles from the summer Olympics, more and more athletes have leveraged their social platforms to divulge their authentic experiences and challenges in an effort to raise global awareness. Their messages resonated among members of Gen Z especially — 88% of whom demand sincerity from the influencers they follow ([Morning Consult](#)).

“I'm honored and grateful to be associated with this award that will recognize the dedicated and selfless people fighting to promote social justice for all marginalized people,

Karim Abdul-Jabbar

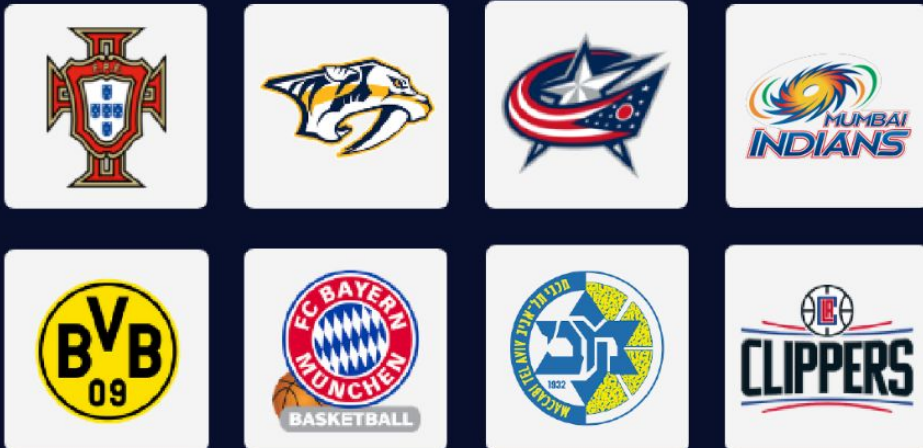


WE TURN DIGITAL ENGAGEMENT INTO VALUABLE DATA

Pico - Get Personal helps 80+ of the world's leading sports clubs own 1st party data on their digital fans and market to them accordingly.

Know your fans on a personal level!

Pico's technology identifies digital audiences across all channels, continuously captures new data (GDPR compliant), and syncs directly with an organization's CRM. Using the data for personalized, targeted marketing has resulted in conversion rates that are 2.5x higher than the industry average and click-through rates that are 4x higher than industry standards.



With Pico we're building personal relationships with our potential audience of +30M digital fans in ways we previously couldn't



Simon Mayr, Head of Digital
BVB Dortmund

SPORT BECOMES SCIENCE

What are live sports without insightful commentary to captivate fan interest? Until recently, broadcasting and sports analysis relied on the arbitrary observations of reporters, often subject to inaccuracy. Now, the continuous integration of big data offers thrilling opportunities for all stakeholders across the sports landscape, ushering in an era of objectivity and fairness. With expectations to reach \$3.44bn by 2028, the global market for sports analytics is flourishing, registering a 21.3% CAGR during the forecast period 2021-2028 (GlobeNewswire). Cloud-based software and computing are critical engines of growth, enabling flexibility and convenience.

Thanks to countless data collection platforms — from wearables to connected equipment to video analysis platforms, and beyond — players, teams, and fans gain access to endless data. Providing meaningful insights from an abundance of raw metrics demands advanced analytical and management tools which leading sports associations and institutions have already begun implementing to establish a competitive edge. Prominent Spanish football team Real Madrid is just one example; the team's partnership with Microsoft serves to capitalize on cutting-edge technology to examine team performance and player fitness. The NBA, German Football Association, and the Royal Spanish Football Federation are among others using comparable tools to generate predictions for future game outcomes.

The on-field segment of sports analytics is expected to register the largest growth due to the rise of wearable tracking devices. Live metrics serve to highlight and analyze how each player's behavior can influence team performance. For example, if an NFL player typically makes 90% of one teammate's passes, but only 45% of those made by another teammate, the coach will mobilize the more successful pairing on game day. Competition stiffens as coaches deploy machine learning techniques to pinpoint advantageous strategies and player combinations. As data science dominates, there is no longer room for human error and subjective judgments in training and gameplay.

On the flip side, big data enables comprehensive fan analysis, as well. Just like any business, sports derive profitability from fan engagement. Assessing patterns in social media, event attendance, and merchandise sales thus provides operators an understanding of what sports consumers want and how to deliver it. Adhering to these preferences maintains fan satisfaction and loyalty, ultimately optimizing operability.

The rise of blockchain ensures transparent and accessible data aggregation going forward, transforming countless sectors across the sports landscape.



Sea Analytics is changing the game in outdoors sports tracking, analysis and management.

Sea Analytics is a smart platform that allows users to upload large amounts of data and video from multiple devices. The software analyzes the data, then presents personal and concise insights.

Utilizing proprietary algorithms and its advanced machine learning capabilities, the company presents unparalleled insights on technical and tactical analysis as well as increased efficiency in training for both athletes and coaching staff.

Sea Analytics is a strategic platform for teams, clubs, federations and individuals as they all want to improve over time, keep and use their data more efficiently and utilize the power of shared knowledge within the team. Clubs are also reporting a better engagement by athletes and parents and thus reduce churn, even during a tough year for sports.

Sea Analytics was established in early 2020 and is already changing the world of sailing and water sports, bringing cutting edge technology to a traditional sport. The company explores to expand to other sports verticals in the near future.



TRACK160

The power and impact of match and player data analytics in football (soccer) are no longer to be questioned. Coaches, sports directors, scouts, commentators, bloggers, and high-level athletes - all rely on data every day.

Nevertheless, up until recently, Sub-elite teams were kept from joining this trend due to the substantial costs, high complexity, and special infrastructure required for the implementation of tracking and analysis systems. Now, with **Track160's** new automated, flexible, and affordable solution - they can play in the big league too.

Founded by Miky Tamir and Micha Birnboim in 2017, **Track160** marches at the forefront of the battle to democratize football data analytics. Its product is the only fully AI-based analytics solution in the market, offering robust tracking & performance data, automated video analysis, and sport science information - all in one product suite.

Track160's football analytics solution can be easily deployed in any size stadium. Using a single camera set, deep-learning algorithms, and groundbreaking optical tracking technology, Track160's platform provides teams at any level with a 360° FIFA EPTS quality certified match and player analysis. This includes tracking data, performance statistics, event data, and auto-generated video clips for each event in the match.

The company's product was launched commercially at the end of 2020 and quickly gained traction. Track160 is already working with several well-known leagues across the globe, and judging by the uniqueness of its solution and the hunger of sub-elite football clubs to close the analytics gap, is on its way to make another huge leap in 2022.

1,600+

events occur during a football match

Using groundbreaking computer vision technology and deep learning algorithms, Track160's system identifies and tags them automatically, without any human involvement.



“Football data is currently available only to the elite teams and athletes. That’s about to change. Considering the enormous value we bring, the huge market demand we are experiencing and the strong feedback from our customers, who already take advantage of our analytics platform, I’m confident that it won’t take long before Track160 becomes a standard for any team in any league.”

Eyal Ben-Ari,
Track160's CEO



i-BrainTech

“i-BrainTech: The future of football!”

World Soccer Magazine

The more you practice a move, the better you get at it, right? This is because when you practice an action a lot of times, your brain physically rearranges itself and improves. Your brain gets much better at controlling your movements and eventually you see the result: you play better. There has never been a way to train the brain directly to improve performance...

... Until now...

I-BrainTech, a pioneer in brain training for sports, has created a neurofeedback system designed for competitive athletes to strengthen their brains directly. The technology sounds futuristic, a video game you control with only your mind, but it is very much real. Grounded by over 10 years of scientific research by neuroscientists CEO Dr. Konstantin Sonkin, and CTO Yoav Zamir, the technology pairs perfectly with on-field training to offer an effective way to improve playing when off-field.

i-BrainTech's system is currently being used in Europe and the United States by several professional clubs. Here's what former US National Team captain Jonathan Bornstein has to say about it...



“You hear the phrase, “train your brain” all the time in soccer and the sports world. I have finally found a way, with the i-Braintech system, to make that a reality.”

i-BrainTech has also caught the attention of the medical world, with research studies planned to further examine the benefits. When asked about i-BrainTech, Dr. Brian Forsythe, M.D., team physician of the Chicago Bulls, Chicago White Sox and Chicago Fire FC. said:

"i-Braintech is a leader in the field of Sports Performance. Their innovative neurofeedback technology applies AI to optimize the mental side of sports medicine. We all know how important neuromuscular control is to the elite athlete. Training the brain constitutes the new paradigm in sports medicine and neuromuscular rehab."

With no risk of injury, short training sessions (10-30min), and clear performance benefits, this technology is a no-brainer and easy to implement into training routines and rehabilitation regiments. Due to the company's early stage market penetration in the US and Europe, special offers and programs are currently available for qualifying clubs.

GAME ON

Gamification has exploded in the past decade, and it may just be the key to connecting sports media operators with younger demographics.

Countless studies confirm the same results: Gen Z is unlike any previous generation in its consumption of sports media. Among this demographic, born between 1997 and 2012, nearly **40% report never watching sports**, and less than half consider themselves to be sports fans at all ([MorningConsult](#)). It's too early to assess the lasting impact of these trends. However, sports institutions must act accordingly and approach the future with innovative technology-driven engagement strategies that cater specifically to Gen Z preferences. So far, gamification presents substantial opportunities as well as a wide reach.

Today, a growing number of sports fans want to do more than just spectate; they seek interactive content and capabilities that enable them to become part of the game as active decision makers, or even athletes. Now, with cutting-edge technology, sports providers can realign their offerings to meet renewed consumer expectations. Over the past several years, the integration of badges, points, leaderboards, and more have given rise to unmatched immersive capabilities, while cultivating community in a virtual setting.

3.24B

gamers across the globe ([Statista](#))

87%

report gaming at least weekly

45%

report subscribing to at least one paid gaming service, with an average closer to three (Deloitte)

Sports entertainment providers can leverage younger demographics' well-established love of gaming through esports and fantasy sport platforms — and the benefits transcend opportunities for engagement and revenues alone.

In the past few years, the rise of esports has catapulted the global industry to a valuation of \$1.28bn in 2021. With an expected CAGR of 23%, revenues are slated to approach \$3bn by 2025 ([GlobeNewswire](#)). The integration of pop culture in esports has been critical to industry growth, facilitating collaboration between gaming platforms and teams, athletes, brands, and other sports-related institutions.

“The pop-culturization of esports has helped power the explosions in esports investment and revenue.”

Insider Intelligence

An immersive hybrid model of physical and virtual sporting events enables players to go beyond imagination; with VR/AR capabilities and customizable cameras, users can move throughout a virtual environment and witness their own gameplay from almost any angle. Entertainment value is compounded by an emerging metaverse. In the coming years, fans can expect the augmentation of live in-person gameplay to feature players in the form of their favorite animal... or sneaker brand... or anything else. Endless prospects for fan enjoyment generate untold opportunities for dynamic volumetric advertising and innovative brand placement, removing the need for ad breaks all together while increasing revenue potential.

“Gamification is leading the way in our adrenaline economy”

Sports Business Journal

INTHEGAME

DON'T JUST WATCH, **PLAY!**

Inthegame is a global provider of viewer interaction technology and a patented in-stream gamification and monetization platform.

ITG's recent implementations include the Tokyo Olympics, US Open golf tournament 2021, Euro 2020, Twitch, Big Brother, Survivor, Game of Chefs and many more.

The company partners with leading broadcasters, brands, streamers and rights-owners to instantly deliver interactive viewing experiences on any screen. Their products support both live and recorded content across all connected devices.

In-stream predictions, polls, knowledge based challenges, product purchasing, social features and more are fully customisable and branded according to content owner's needs, requiring zero downloads or hassle from end users. ITG integrates with all players and infrastructure and guarantees the fastest implementation time.

Content owners and brands gain a proven new monetization channel, while fostering ongoing relationships with viewers throughout the entire viewer journey. Via ITG's analytics, meaningful, data-based insights are obtained, together with a deeper understanding of audience choices and preferences.

**InTheGame
Integrations**



GENERATION Z, POST-COVID AND THE FUTURE OF MARTIAL ARTS...

by  LUDUS ALLIANCE

The "Digital Natives" or Generation Z have a digital bond to the internet. They eat, sleep and breath tech, like sports and even broaden sports interests. They are pragmatic and independent and in their eyes, traditional sports are boring! Alternative, adventure and e-sports rock!

The youngest generation also prefers bite-sized sports consumption rather than sitting through lengthy contests.

Kids (and parents) love martial arts. it's a fact! It empowers them, builds self-confidence, provides values, improves focus and athleticism and much more, but it's also "traditional", serious and not so attractive to watch...

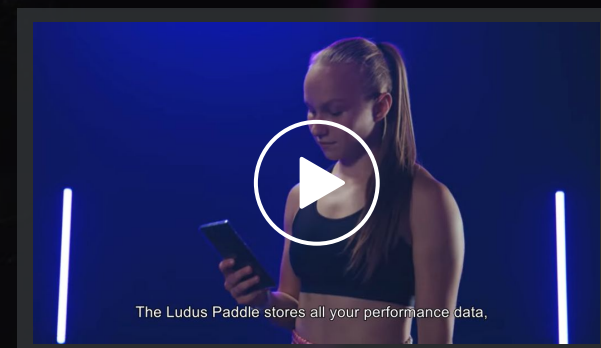
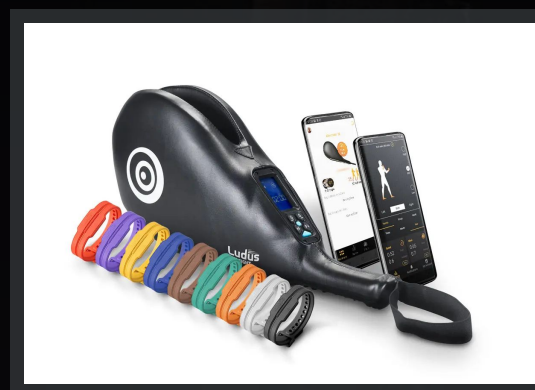
That's why, we at **Ludus**, have created a smart training tool that will help coaches become more "communicative" with the younger generations and provide them with the interactivity and engagement they seek. With our tech, each athlete is training and competing against themselves first and others later and can view their performance and improvement in their personal app, so they're fully independent and experience a great sense of accomplishment. Even the non-competitive ones.

The new measurable metrics and results that are being produced, allows new fun, Attractive and exciting challenges & competitions revolving around it. Our events platform allows competitions on a local scale, a national one, where clubs are against each other online and international competitions, each from their own club!

Minimum logistics, New revenue streams for the clubs, Maximum consideration in regards to Covid-19 different protocols and lots of young, happy athletes and parents.

In order to preserve traditional martial arts and keep motivation and interest within those digital natives, we've got to connect technology and provide the proper up-to-date packaging.

Technology is all around us. The future is already here.



BETTING GOES BIG \$59.5B

The global market for online sports betting anticipates continued growth,

by 2026, up from \$24.9bn in 2019 ([MarketWatch](#)).

Sports betting is booming in 2021. Over the past five years, the global sports betting industry has increased revenues by **70% and concentration by 80% due to the continuous consolidation of smaller rivals**. For the top five companies, sales growth has tripled (Bloomberg), attracting significant investor and financing activity.

Summer 2021 Deals

theScore

purchased for **\$1.74B** by



DRAFT KINGS

offered **\$1.56B** to acquire



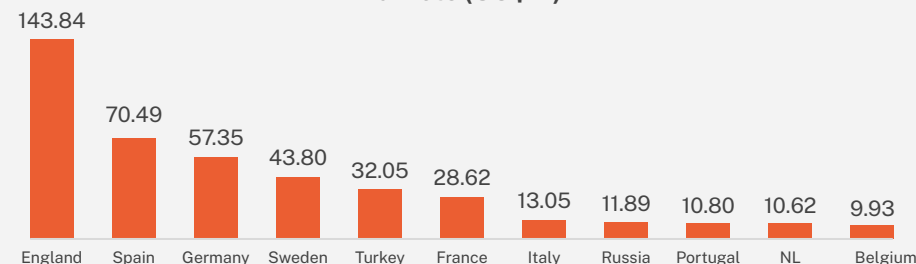
Like many sectors, the onset of big data and analytics has transformed sports betting and attracted more participants than ever. Fans can leverage real-time metrics and precisely analyze team performance to place wagers backed by reason. Across the U.S., younger demographics especially celebrate the spread of legalized gambling, now active in 22 out of 50 states. This year, the American Gaming Association predicts 45.2m Americans will bet on events throughout the NFL season. In fact, this season marks the first in history that the league will run betting-related advertisements during official broadcasts. As a result, already-sizeable revenues are slated to multiply, fueling expansion in the North American market, where sports betting anticipates a 15.8% CAGR during 2019-2026 ([MarketWatch](#))

“The NFL is the 800-pound gorilla for sports betting and for daily fantasy sports. It’s the one sport where you’ll see a lot of casual sports betters come out.”

Kevin Hennessey, director of publicity for FanDuel Group

It’s still not a fair game between the United States and Europe, whose dominance in sports betting energizes the soccer segment in particular. In 2020, European soccer accounted for 78% of the betting industry’s overall sponsorship across the EMEA region, generating revenues of nearly half a billion dollars. Unfortunately, momentum is already waning amid European efforts to restrict sports betting. Italy’s 2019 Dignity Decree stimulated lost revenue of more than \$100m for Italian football ([GlobalData](#)). As Spain and England consider implementing similar restraints, additional losses are imminent.

2020/21 Betting Sponsorship Spend on European Soccer - Major Markets (US\$M)



Source: GlobalData Sport Intelligence Center

Despite emerging regulations, the growth of sports betting impacts fan engagement profoundly. Betting opportunities encourage sports fans to watch more games for longer periods to determine the success of their wagers. Whether betting on game outcomes or player-specific activity, most sports fans and event attendees feel more invested when they have skin in the game. In fact, as a form of interactive entertainment, betting opportunities can recruit even non-sports fans, thus enabling sports to reach entirely new consumer segments. Technology enhances this experience immeasurably. For example, the XFL’s recent mobile app launch generates a screen overlay to display betting odds alongside standard game information such as the game score and clock. In addition, the ability to bet on virtual sports teams presents opportunities for collaboration between bookmakers and esports segments — perceived as the future of sports.



Funatix Club provides rights holders with their own, fully localized official social fantasy-sports platform.

By using enhanced online-gaming methodologies, we bring the classic season-long fantasy games to a whole new level, so fans engage with the league's real life results on a daily basis.

Why Now?



"Young fans don't watch football anymore, they have other hobbies."

Florentino Perez, President of Real Madrid (April 2021)

Why Funatix Club?

1

Bringing Back The Young Fans

Most of Funatix's registered fans are **Gen Z's** with significantly higher engagement numbers than the industry averages.

2

Fastest Time To Market

Our modular software architecture and automated tools, enable us to ramp-up a new, fully localized fantasy league in **24 hours**.

3

The World's Most Trusted Fantasy

Official fantasy game of 7 top football leagues.



NFTs & FAN TOKENS

Sports betting platforms have been early adopters of fintech in sports; more recent entrants include non-fungible tokens (NFTs), which are currently fueling major disruption across the sports landscape. NFTs refer to players' and teams' release of digital collectibles on a blockchain network, opening yet another channel to facilitate fan engagement.

As of February 2021, weekly sales of sports NFTs peaked at **\$138M**.

While sales have since registered a dramatic decline of nearly 90% (Sportico), analysts remain confident in NFTs' long-term survivability thanks to their diverse buyer segments, of which speculators and tech-lovers comprise nearly two-thirds. Additional segments include community members, who use NFTs to enhance their involvement in their favorite sports. Among this demographic, experiential and social value is essential, and current offerings reflect this.

Purchasing an NFT unlocks exclusive benefits such as a player's digital signature, signed jersey, or even the chance for one-on-one interaction. These unique features are directly linked to an associated NFT whose replication is impossible. In April this year, an NBA Top Shot starring LeBron James, in honor of Kobe Bryant, sold for close to \$400,000, setting a record for emergent NFTs and reflecting fan demand for authentic player interaction. Just as social media enables personal brand autonomy for athletes, NFT offerings convey intimacy and ultimately drive fan relationships. Trading platforms establish global fan communities, well-positioned to receive future offerings from branded collaborations and beyond.

It's no secret that vast monetization opportunities among NFTs operators are fueling impressive industry growth while energizing prospective newcomers.

Dapper

\$607.5M

total funding

\$7.5B

valuation

Dapper is working to expand its already global reach through a recently announced partnership with LaLiga

\$739.5M

total funding

\$4.3B

valuation

sorare

Sorare is currently working to infiltrate U.S. markets in direct competition with Dapper Labs.

Even for fans who lack interest in digital collectibles specifically, the technology beneath NFTs contributes additional value to the sports entertainment experience. Event operators can transform scannable tickets into programmed NFTs that are easily authenticatable on secondary markets, granting teams secure access to associated royalties. Going forward, providers can even combine NFT capabilities pertinent to both ticketing and collectibles, affording exclusive opportunities and rewards to premium- and season-ticket holders. The combined value of these experiences is likely to attract new segments among consumers who would not have previously purchased either offering on its own.

“I think the fact that, obviously you're still gonna have the collectibles and so on, but I think that ... cluster of people buying for the experience and the incentive, the awards, engagement, is gonna be the future of NFTs.”

Christian Ferri, CEO of Gee, an enterprise-grade NFT company that recently launched an NFT with Italian soccer club Juventus

Media & Broadcasting



Health & Fitness



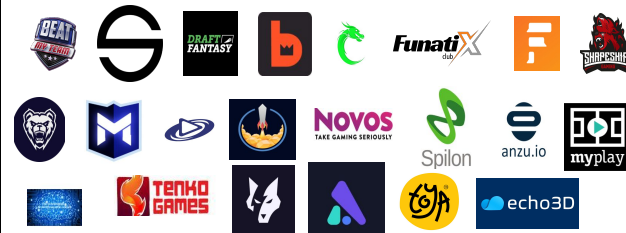
Fan Engagement



Smart Stadium



Esports & Gaming



Athlete Development

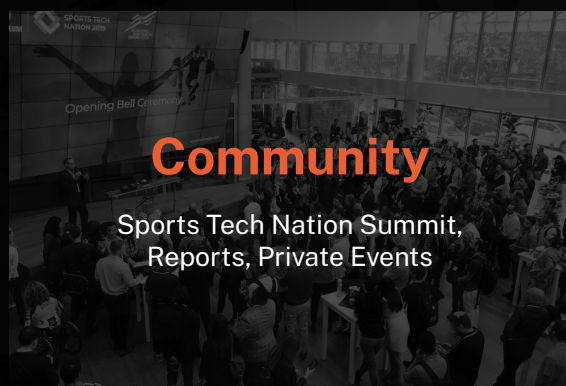






Colosseum is an international sports tech innovation group headquartered in Tel Aviv, Israel. Our mission is to empower the sports industry with disruptive technologies and innovation.

We provide sports organizations, startups, and corporations with business opportunities to improve their performance, gain international exposure, and establish a position at the forefront of innovation.



Community

Sports Tech Nation Summit,
Reports, Private Events

25,000+ people attended our events

500+ industry speakers joined us

800+ hours of exclusive content
generated

5 industry reports

5000+ startups in our database



Education

Colosseum Sport Academy,
Executive Programs

First company to offer a degree in
Sports Tech Management

300+ hours of courses put together

Partnership with IFPO, FIFPRO, Barça
Innovation Hub, Wingate, and other
major academic institutes around the
globe.



Scouting

5000+ startups in various sports
verticals

We work with startups with a vision to
disrupt the sports tech industry;

We also guide and build presence for
leading corporates in the sports
industry



24h of content 4800+ participants 70+ countries



SPORTS TECH NATION 2021

07-09 december 2021

The biggest sports & tech festival worldwide!

2021 Confirmed Speakers



Xavi Hernandez

Board Member of Kognia Sports Intelligence



Ishwara Glassman Chrein

President of Business Operations at Chicago Fire FC



Alistair Gosling

CEO & Founder of EXTREME



Lorin Hamlin

Head of Open Innovation at Under Armour, Inc.



Wayne Kimmel

Managing Partner at SeventySix Capital



Miguel Ángel Leal

CEO of LaLiga Tech



Alexandre Dreyfus

CEO Chilliz & Socios.com



Melanie Strong

Managing Partner at NEXT Ventures



Andreas Heyden

EVP Digital Innovations DFL Group at Bundesliga



Day One: Virtual VIP Cocktail



Day Two: Main Day



Day Three: B2B Sprint

Network & Partners



Check the complete lineup [here](#)

REGISTER NOW

GET IN TOUCH

If you have a sports tech initiative/solution, contact us.
We are open for partnerships!



Colosseum Sport

LinkedIn

website



Fernanda Rojtenberg

CMO

LinkedIn

email