

Tech Powerhouse 2026

**Report on trends, innovation and
technological transformation from
LALIGA's perspective.**

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The New Paradigm of Sport: innovation as a Strategic Imperative

In recent years, the sports industry has evolved from a model centred on stadium attendance and television towards a global digital entertainment ecosystem. Today, competition for users' attention comes from multiple leisure platforms.

In this landscape, technological innovation is a strategic necessity. Sport, at its core, is merging with cutting-edge technology to give rise to the concept of 'Sportainment'—a combination of sport and entertainment where technology redefines the fan experience and helps improve decision-making processes within complex organisations such as sports competitions and clubs.

The traditional paradigm has been superseded by a multidimensional reality. Today, the most innovative sports organisations also operate as media companies, software developers and data laboratories, all under the umbrella of a global brand that must resonate in markets as diverse as Spain, China and the United States. The saturation of content on digital platforms and the rise of new forms of entertainment, such as *streaming* platforms, social media and video games, require professional football leagues to evolve towards more agile, personalised and technologically autonomous business models.

This evolution responds to a transformation in the sociology of consumption. New generations of fans, digital natives with fragmented attention spans, seek to engage with matches, analyse them in real time, share content on social media and take part in live experiences. Technology acts as the connective tissue that democratises access to elite technical information, offering the average fan the same metrics used by sporting directors, and thus transforming passive consumption into active and emotional engagement.

COMPARISON TABLE

Traditional Model vs. New Paradigm (*Sportainment*)

CHARACTERISTICS OF THE PARADIGM	TRADITIONAL MODEL	NEW PARADIGM (<i>Sportainment</i>)
Business Focus	Sale of tickets and local TV rights.	Global ecosystem of data and experiences.
Role of the Fan	Passive viewer in front of the television.	Interactive and multi-platform consumption.
Use of Technology	Operational support tool.	Strategic hub for decision-making.
Value of Content	Exclusivity of the 90 minutes of play.	24/7 content and immersive experiences.
Data Management	Basic and reactive collection.	Predictive and agent-based intelligence.

Purpose of the *White Paper*. Mapping Innovation in Sport

This document is intended to be more than just a corporate report; it is a strategic bridge designed to highlight the state of the art in innovation in sport (and in football in particular), serving as a link between the general technology market and its real-world application at all levels of the sporting ecosystem. At LALIGA, we understand that adopting technology without a clear purpose, simply to follow trends, does not generate value; its importance lies in its ability to solve specific problems faced by clubs, improve competitive fairness and enrich the fan experience.

The fundamental purpose of this *White Paper* is to demystify innovation, taking cutting-edge technology from laboratory settings to practical implementation on the pitch, in offices and in fan engagement.

Through this strategic roadmap, the reader will discover how LALIGA has orchestrated a technological ecosystem where tech giants, strategic partners such as Sportian, and disruptive *start-ups* coexist. Furthermore, capitalising on LALIGA's privileged position as a driver of technological knowledge, this journey is enriched by the perspectives of the leaders shaping the present, a comparison with the major European competitions, and an in-depth analysis of the trends that will dictate the rules of the game in the new *sportainment* paradigm.

This document is intended as a reference tool for CEOs, industry executives, the media and forward-thinking professionals who wish to understand the forces shaping the future of football.

True to LALIGA's values, this document promotes transparency and collaboration to create an ecosystem where shared knowledge strengthens and professionalises the sports industry globally.

LALIGA as a Pioneer: *The Tech Powerhouse*

Today, LALIGA has moved beyond its original role as a club association to establish itself as a global technology leader.

Beyond internal use, the strategy focuses on in-house development, the democratisation of technology for all LALIGA EA SPORTS and LALIGA HYPERMOTION clubs, and internal talent. Furthermore, it is also committed to marketing technology to third parties through Sportian. This project, part of the partnership with Globant, is leading the digital evolution of the sports sector.

Innovation Strategy

Innovation Milestones

LALIGA's evolution in the technological sphere stems from a structural transformation driven by the organisation's strategic leadership. Prior to 2013, the LFP, as an association, occasionally generated significant technological initiatives, but these were fragmented in nature and lacked an integrated vision.

The turning point came with the arrival of Javier Tebas as president in 2013, when a clear objective was set: to transform LALIGA from a relatively small association with indebted clubs into a major multinational sports and entertainment organisation with financially sound, strong and global clubs. To achieve this, three fundamental pillars were defined: implementing a rigorous financial control system, launching an ambitious internationalisation strategy, and making a decisive commitment to technology and the digitalisation of the organisation.

From 2015 onwards, the material foundations of this model began to be laid, with the first structured technological developments, particularly in the field of anti-piracy – a critical area for protecting the competition's audiovisual value, which remains a priority to this day. This approach rapidly evolved into a comprehensive strategy in which technology became a central element of the value chain.



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One of the key milestones came in 2016 with the signing of the strategic agreement with Microsoft. This marked the start of a long-term, innovation-focused partnership, with Microsoft providing Azure, the core technology for many of LALIGA's *in-house* developments. This partnership enables LALIGA to incorporate advanced capabilities in cloud, data and artificial intelligence, and to combine sporting expertise with technology-industry knowledge, a unique combination that has enabled LALIGA to position itself at the forefront. Initiatives such as the launch of *start-up* competitions reflect this commitment to open innovation and the integration of global talent.

At the same time, LALIGA is driving the creation of specialised internal structures. In 2017, the Business Intelligence department was established, evolving from a small team into a strategic division with over 70 professionals and an investment of over 200 million euros. This department played a key role in the development of proprietary data-driven solutions, many of which were officially certified as R&D&I projects, and in the consolidation of a culture of information-driven decision-making. Building on this foundation, some of the organisation's most distinctive projects were developed.

Sportian Performance (then known as Mediacoach) was established in this context as one of the world's most advanced performance analysis systems, capable of processing millions of data points per match and making that information available to all clubs, helping to democratise the competition. At the same time, tools such as Tyche 3.0 position LALIGA as a leader in the fight against match-fixing through the use of *machine learning* algorithms capable of analysing millions of data points daily.

Content protection has also become a strategic focus with the creation of LALIGA Content Protection in 2020. This division boasts an ecosystem of proprietary tools currently grouped under the name Piracy Guard by Sportian, positioning the organisation as a global leader in the fight against piracy from a technological standpoint as well. This effort protects the audiovisual business, having a direct impact on the sector's sustainability.

The next step in this evolution comes in 2021 with the creation of LALIGA Tech, the technology subsidiary that enables the structuring, scaling, and commercialisation of solutions developed in-house. This move consolidates LALIGA as a technology player capable of offering services to third parties.

LALIGA Tech became Sportian following the agreement between LALIGA and Globant in 2022, establishing itself as a leading technology company in the global football industry. Through Sportian, solutions are currently marketed to global sports organisations such as MotoGP and the Belgian league.

That same year, the extension of the agreement with Microsoft and the launch of Beyond Stats, a project that uses performance data from Football Intelligence to engage with fans through the digital ecosystem and broadcasts, reinforced the commitment to artificial intelligence and data as key elements for improving the fan experience.

● INTRODUCTION

Today, LALIGA's technology strategy is structured around several key areas: the use of data for decision-making, the cross-cutting integration of artificial intelligence into internal and external processes, the automation and the personalisation of the fan experience, as well as the development of solutions in critical areas such as anti-piracy and the integrity of the competition. All of this is supported by strategic partnerships with leading companies such as Globant.

The commitment to agent-based AI takes centre stage in the 2025–26 season with a comprehensive transformation plan. This initiative will overhaul the company's structure through advanced platforms and an ambitious programme of continuous training for employees. To reinforce this strategic direction, LALIGA has appointed an expert in AI-based organisational transformation, Prasanna Kumar, to its Technology and AI department, who became LALIGA's Director of Technology and AI in March 2026.

In this context, LALIGA views technology and AI as a tool serving a greater purpose: to improve the competitiveness of the clubs, safeguard the value of the competition, drive new business opportunities, support data-driven organisational decision-making, increase productivity and offer an increasingly rich and personalised experience to fans.

This vision, developed progressively with a clear ambition since 2013, has enabled LALIGA to position itself as one of the global leaders in the digital transformation of the sports industry.

TABLE
LALIGA innovation milestones

MILESTONE	YEAR/PERIOD	STRATEGIC IMPACT
Start of the strategic transformation	2013	Modernisation plan based on financial control, internationalisation and digitalisation.
Foundations of the technological ecosystem	2015	Development of structured anti-piracy solutions to protect audiovisual content.
Strategic alliance with Microsoft	2016	Cloud computing, data and artificial intelligence on Azure.
Data structure and performance	2017	Creation of the Business Intelligence and Analytics department. Consolidation of Mediacoach and Tyche 3.0.
LALIGA Content Protection	2020	Creation of a specialist unit with proprietary tools (Marauder, Blackhole, Lumière) to combat piracy.
Creation of LALIGA Tech	2021	Establishment of the subsidiary to scale up and market the ecosystem of technological solutions to third parties.
Joint venture with Globant (Sportian)	2022	Agreement to evolve LALIGA Tech into Sportian, marketing technology to organisations such as MotoGP.
Beyond Stats Project	2022	Use of AI and performance data to enhance the fan experience through advanced metrics.
Agent-based AI transformation plan	2025/26	Deployment of autonomous agents and intensive training to transform the entire organisational structure.
Consolidation within the Technology and AI Department	2026	Appointment of Prasanna Kumar (March) to lead the AI-driven organisational transformation.

Product Innovation

Content creation

In today’s attention economy, LALIGA has embraced the idea that football is also competing against streaming and gaming giants. Consequently, innovation in content creation has focused on two main areas: enhancing the viewing experience and protecting the value of digital assets.

The Mediacoach tool, which was originally conceived as a technical platform for analysts and coaching staff, has now also become an inexhaustible source of dynamic content for fans. Thanks to the installation of 16 optical tracking cameras and three tactical cameras in each stadium, more than 3.5 million data points are captured per match, recording the position of players and the ball 25 times per second.

This vast amount of information is processed using artificial intelligence and *machine learning* algorithms on Microsoft Azure and fed into the platforms managed by the Football Intelligence department. Some of this data is also used to feed the Beyond Stats project. This initiative democratises access to advanced data, transforming complex metrics into understandable graphics that are integrated into social media and live broadcasts, allowing viewers to understand aspects of the game that were previously invisible, such as goal probability, *sprint* speeds or the effectiveness of space occupation.

TABLE
Audiovisual innovation

AUDIOVISUAL INNOVATION	TECHNICAL SPECIFICATIONS	IMPACT ON THE FAN EXPERIENCE
4K-HDR Production	Use of over 30 cameras in key matches.	Superior sharpness and colour accuracy.
Aerial Camera	Suspended 21 metres above the ground in stadiums.	Unique tactical perspective and visual dynamism.
360° replays	Based on 38 ultra-high-definition cameras.	Volumetric visualisation of critical plays.
Live 3D graphics	Real-time generation of virtual graphics.	Immediate educational analysis of the play with a video game-style interface.
Acrobatic Drones	Immersive flight through tunnels and over rooftops.	A sense of proximity and spectacle.
Multi-Screen	Four simultaneous feeds.	Customised and analytical visualisation.
RefCam	Camera integrated into the referee’s headband	Allows viewers to see the referee’s point of view

● INTRODUCTION

The creation of high-quality content loses its economic viability if it is not protected against digital fraud. LALIGA has developed a proprietary technology suite to combat piracy, using natural language processing (NLP) artificial intelligence to monitor social media and messaging apps for illegal links.

The system is capable of detecting and reporting fraudulent broadcasts in real time, enabling the immediate removal of content to preserve the value of audiovisual rights. The technological tools used for this purpose are integrated into the Piracy Guard suite.

These tools are so effective that LALIGA markets them through Sportian to other international competitions, such as Italy's Serie A or the MotoGP World Championship, consolidating its position as a leading technology provider in sports cybersecurity.

In this context, organisations that do not prioritise technology run the risk of falling behind. Entities such as LALIGA take on the role of *Tech Powerhouses* to lead the new sports economy, ensuring the financial sustainability of their clubs and enhancing the social impact of football globally. This positioning is based not only on structural technological development, but also on the capacity for activation and scaling within the digital ecosystem. In this regard, LALIGA's Digital Department, led by Alfredo Bermejo, also plays a key role as a driver of growth, product innovation and direct connection with *fans*, acting as the convergence point between data, content and user experience within the LALIGA ecosystem.



Fan Engagement: Growth and Data Intelligence

The second pillar of the product innovation strategy focuses on user lifecycle management through growth and data intelligence. The aim is to move beyond superficial *engagement* to build a deep and monetisable relationship with the fan, based on a comprehensive understanding of their behaviour in the digital environment.

The *Customer Data Architecture (CDA)*, built on Microsoft Azure, is a repository that centralises all user activity, integrating *zero- and first-party data* to generate a complete view of the fan, known as Fan 360.

The digital ecosystem is therefore built around a single identity system, which allows users to navigate seamlessly between the official app, LALIGA Fantasy and the *loyalty* platform MiLIGA without having to register multiple times. This integration enables LALIGA to understand why a user makes certain decisions and to trigger hyper-personalised communications at the *fan's* 'peak moment'.

TABLE
Product Metrics *fan engagement*

PRODUCT METRICS	2024/25 PERFORMANCE	STRATEGIC RELEVANCE
LALIGA Fantasy Users	3.6 million active users (+82% vs previous season).	Main driver of daily engagement and gamification.
Official App Downloads	36 million historical; 1.1 million active per season.	Direct point of contact and consumption of short-form content.
Fantasy registrations	+221% new registered users.	Exponential growth in the captured database.

LALIGA uses artificial intelligence as the driving force behind operational efficiency in the Growth department. Bernardo Hermoso, who heads the department, highlights the use of predictive AI models implemented in Salesforce Marketing Cloud to identify users at risk of *churn* or those who are overwhelmed by communications. By adjusting the frequency and relevance of communications, LALIGA has managed to improve retention.

In the field of user acquisition, AI has evolved from the use of basic algorithms towards agent-based processes. On platforms such as TikTok, using tools like Symphony, LALIGA can run advertising campaigns in multiple different languages, automatically adapting the content to the type of user and their consumption preferences, which drastically reduces the cost of acquisition and enables an unprecedented global reach for the brand's message.

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A key differentiator of innovation at LALIGA is the technological support it offers its member clubs. The organisation acts as a technology service provider, offering clubs:

- 1. **Maker (CMS):** A unified content management system for their websites and apps that ensures scalability and reduces operational costs.
- 2. **Marketing Cloud Tenants:** Each club has its own business unit to manage its fans independently on LALIGA’s central infrastructure.
- 3. **Transparent Data Sharing:** Under the GDPR framework, LALIGA and the clubs have established agreements to share user information, always based on the fan’s explicit consent, allowing a club to continue the engagement initiated on the league’s central platform.

Competition Management

The third pillar focuses on the professionalisation of the competition through the digitisation of processes and advanced analysis of sporting performance.

LALIGA has developed a suite of specialised applications to eliminate inefficiencies in the preparation and execution of matches, connecting all *stakeholders* via a single platform.

TABLE
Competition Management Application Suites

APPLICATION	MAIN FUNCTION	TECHNOLOGICAL ADVANTAGE
Calendar Selector	Schedule optimisation.	Maximising audience reach and stadium attendance.
Kit Selector	Digital kit approval.	Avoids colour clashes and broadcast errors.
Referee Hub	Centralised management of match reports and refereeing.	Transparency and digitisation of post-match reports.
Matchday Manager	Coordination of match operations.	Centralised information accessible from any device.
Tyche 3.0	Integrity and betting monitoring.	Neural networks for real-time fraud detection.
Academy Manager	Academy and youth team management.	Enables centralisation and digitisation of youth football information.

Regarding performance data (Football Intelligence), LALIGA’s philosophy is based on the ‘democratisation of data’, making it the only major league to provide the same level of in-depth information and analytical tools to all 42 clubs across its two professional divisions. Fabio Nevado and Roberto López del Campo, analysts in the Football Intelligence department under the direction of Ricardo Resta, emphasise that this approach helps to level the technological playing field, allowing clubs with fewer resources to compete at the highest level. This department is analysed in depth in the following section: innovation ecosystems.

Roadmap: A Journey of Technological Discovery

This innovation report is structured into seven thematic sections. Each has been designed to address a fundamental pillar of LALIGA's strategy, guiding the reader from a global market analysis to practical implementation within the sports market and in competition.

Section 1: LALIGA's Innovation Ecosystem

Section 2: Artificial Intelligence in Organisations

Section 3: Virtual Influencers

Section 4: Emerging Talent and Profiles

Section 5: Voices from the Ecosystem

Section 6: Global Trends and Technological Innovation Benchmarking

Section 7: Conclusions

Javier Tebas

President of LALIGA

“ The sports industry is undergoing a structural transformation driven by technology and data. At LALIGA, we understand that this change is not optional: organisations that fail to adopt the latest technologies will be left behind. That is why we have spent years integrating artificial intelligence, data analytics and digital innovation at the heart of our strategy. This helps us drive the growth of the organisation and our clubs globally. ”

This *White Paper* is the result of a collective effort and an unwavering belief in the power of technology to transform society through sport.

Having analysed the strategic vision and purpose of this report, it is essential to understand the mechanisms and stakeholders that enable this vision to become a reality. In the next section, the document delves into the heart of LALIGA's innovation ecosystem, analysing the key *players*, partnerships and methodologies.

01.
LALIGA's
Innovation
Ecosystem

The paradigm of ecosystem orchestration

In the current landscape, marked by advances in artificial intelligence and hyperconnectivity, organisations' competitive advantage is evolving towards new, more dynamic and collaborative models, with the ability to activate, orchestrate and lead value networks being key.

For LALIGA, the concept of an ecosystem is defined as an internal infrastructure of collective intelligence where technology, data and human talent converge in a highly integrated network model.

In contrast to traditional linear structures, LALIGA has evolved into its own innovation ecosystem. In this environment, innovation is a cross-cutting capability driven by organisational interoperability, internal talent and technological platforms or workspaces, ensuring there are no market dependencies.

Under this vision, external actors act as strategic extensions that complement and enrich the internal structure. Collaboration with external partners is understood as a selective integration that brings speed and specialisation, revolving around LALIGA's *know-how*. This often allows for shorter time-to-market and optimised investment.

In short, the LALIGA ecosystem is a living organism whose strength lies in coherence, internal connection and the ability to project its technological leadership from the very heart of the organisation.

LALIGA's innovation model

LALIGA's innovation model is defined by a robust and pioneering architecture, designed to transform the sports industry from its very core. LALIGA's ecosystem is a sovereign innovation environment, where the organisation itself and its clubs act as the main drivers of technological development, validation and scaling. The intersection of business and technology facilitates the development of joint projects and accelerates the adoption of disruptive technologies.

This approach positions LALIGA as a key player in building a global innovation ecosystem, capable of anticipating trends, attracting talent and generating sustainable competitive advantages for the entire industry.

The main collaboration models applied are described below:

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– **Co-creation y Joint Venture:** strategic alliances that enable the development of shared intellectual property for specific verticals. The prime example is Sportian, the joint venture with Globant, which combines sector-specific expertise and technological know-how. The alliance has enabled the creation of products and their commercialisation to third parties, boosting the ecosystem and generating synergies.

– **Open Innovation:** relevant for exploring trends and identifying emerging talent, through *start-up* competitions, *hackathons* or innovation hubs. LALIGA has created international innovation *challenges*, where critical organisational *challenges* have been identified to seek solutions within the entrepreneurial ecosystem. Through these *challenges*, LALIGA has analysed over 400 start-ups in strategic sectors such as AI, *fan engagement* and immersive technologies.

The tangible success of strategic innovation depends on the direct commitment of senior management. LALIGA promotes a culture of innovation led by its *C-level executives* that permeates the entire organisation, optimising operational execution and redefining the organisation's strategic direction.

Anatomy of the innovation ecosystem

LALIGA and its clubs are the starting point, the validation environment and the natural destination for innovation. The business strategy sets the direction, real-world challenges define the work programmes, and the ecosystem formed by LALIGA and the clubs allows solutions to be tested, refined and scaled under real-world operating conditions. This direct connection to the day-to-day running of the competition makes innovation an applied, measurable tool designed to generate tangible impact across the entire industry.

This approach is key for three reasons:

Validation in a real-world environment: LALIGA and the clubs of LALIGA EA SPORTS and LALIGA HYPERMOTION constitute a real-world testing ground, where technological solutions can be tested against specific needs, existing operational processes and real business objectives before being scaled up.

Challenge-driven innovation: the operational, technological and business challenges faced by LALIGA and its clubs drive the ecosystem's roadmap, ensuring that every initiative addresses relevant problems and generates practical value.

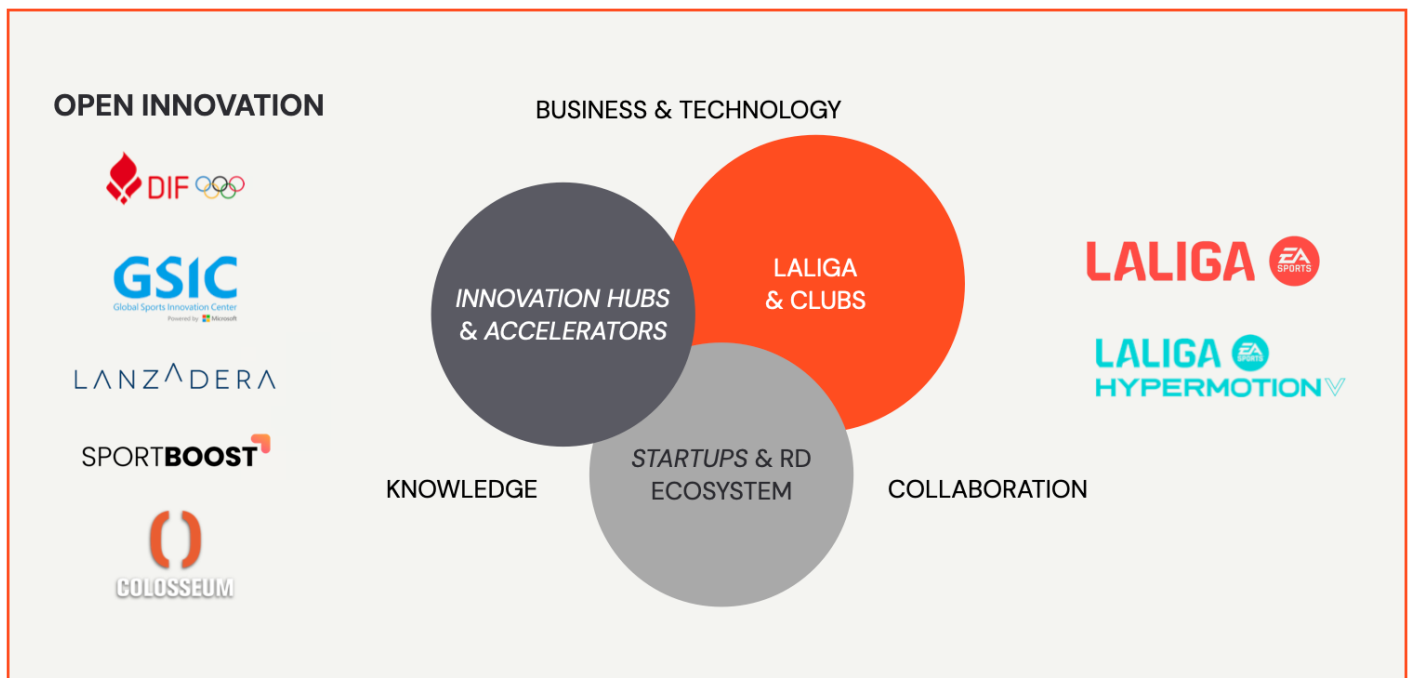
LALIGA's driving force: LALIGA acts as the ecosystem's driving force, connecting core capabilities—AI, technology, data, digital strategy and business knowledge—with the clubs' real needs. This position enables it to drive the adoption of solutions, accelerate their deployment and generate impact at scale across LALIGA EA SPORTS and LALIGA HYPERMOTION.

The catalysts: knowledge and technology

To turn core challenges into real solutions, while maintaining autonomy and in-house development, LALIGA relies on a network of catalysts that provide complementary capabilities: expert knowledge, technology, entrepreneurial talent, market vision and execution capability. These players enable the acceleration of internal development, reduce learning curves and connect the needs of LALIGA and its clubs with emerging solutions from the global innovation ecosystem.

Sportian plays a particularly significant role within this model. As a joint venture between LALIGA and Globant, it combines in-depth knowledge of the sports industry with world-class technological capabilities and a clear focus on the international commercialisation of solutions. Its role goes beyond technological development: it acts as a strategic vehicle for transforming internal learnings into scalable products for the industry.

Innovation hubs and accelerators of recent years, such as GSIC, Lanzadera, SportBoost and R&D centres, have complemented this function by connecting LALIGA with *start-ups*, *scale-ups*, universities, technology centres and new business trends. These nodes expand the ecosystem's capacity for exploration, facilitate the identification of opportunities and enable external innovation to be incorporated in a more agile and structured manner.



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The combination of the real-world challenges faced by LALIGA and its clubs, LALIGA's ability to drive change, and the support of specialised catalysts creates a particularly fertile environment for applied innovation. This model enables a transition from identifying needs to validating solutions in real-world contexts, linking strategy, technology and operations in a structured manner. Within this framework, the clubs are active players in innovation—defining, testing and scaling it—becoming key spaces for demonstrating how innovation can generate tangible impact in the industry.

Club innovation success story: Atleti Lab

Atlético de Madrid has built one of the most robust innovation models in Spanish professional football. Atleti Lab, its innovation department led by Alejandro Ugarrio, drives value creation based on a clear premise: innovation is a responsibility that cuts across the entire organisation. Projects can emerge from any area, while the innovation team acts as a facilitator, supporting each initiative from concept through to implementation.

The club works on three simultaneous fronts:

The first is internal innovation, through training programmes such as *Move Forward*, now in its third year with the UAX Group as a *partner*.

The second is external talent, through relationships with ecosystems such as UEFA's Innovation Hub, which held one of its events this season at the Riyadh Air Metropolitano, and collaboration with Madrid City Council to foster innovation and entrepreneurship in the city through *Pitch Days* with Madrid-based *start-ups*. Also noteworthy is the Atleti Lab Open Connect powered by Telefónica, a global call for solutions in sustainability, inclusion and accessibility.

The third is co-creation with sponsors, which has given rise to such iconic projects as the Sky Ribbon, led by the Technology and Systems department and developed with LG and Telefónica: an LED screen measuring over 2,000 square metres that crowns the stadium roof and transforms the atmosphere of the venue.

Two projects illustrate the club's approach well:

Movistar Touch, developed in partnership with Telefónica, brings the match experience to fans with visual impairments through audio-descriptive commentary and a haptic tablet, which vibrates depending on the action and displays the ball's location.

Atleti Market, meanwhile, was born out of a collaboration with CaixaBank and integrates retail shopping, *ticketing* and food and beverage services with personalised discounts into the club's app. The result of this project, led by the in-house Digital Development team, has been exponential growth in usage metrics.

Innovation challenges

The *Innovation Challenges* contribute to the internal ecosystem through strategic exploration processes, enabling the identification of disruptive solutions that integrate into its sovereign ecosystem and relevant market insights. This process begins with international *scouting* organised around four key verticals, aimed at detecting trends, technologies and new business models with the potential to transform the sports and entertainment industry. In this way, the *Innovation Challenges* act as a mechanism linking external innovation with LALIGA's strategic priorities, accelerating the adoption of relevant, distinctive and scalable solutions.

To realise this impact, the challenges are grouped into five strategic verticals covering the fundamental pillars of the business: *Fan Engagement*, *Smart Stadiums*, *Content and Audiovisual*, *AI and Operational Excellence*, and R&D applied to sporting performance.

Fan Engagement: identifying solutions capable of redefining the relationship with fans, generating more personalised, interactive and monetisable experiences. This vertical explores new business models and connection formats both at home and in hospitality settings, expanding the points of contact between LALIGA, the clubs and their audiences.

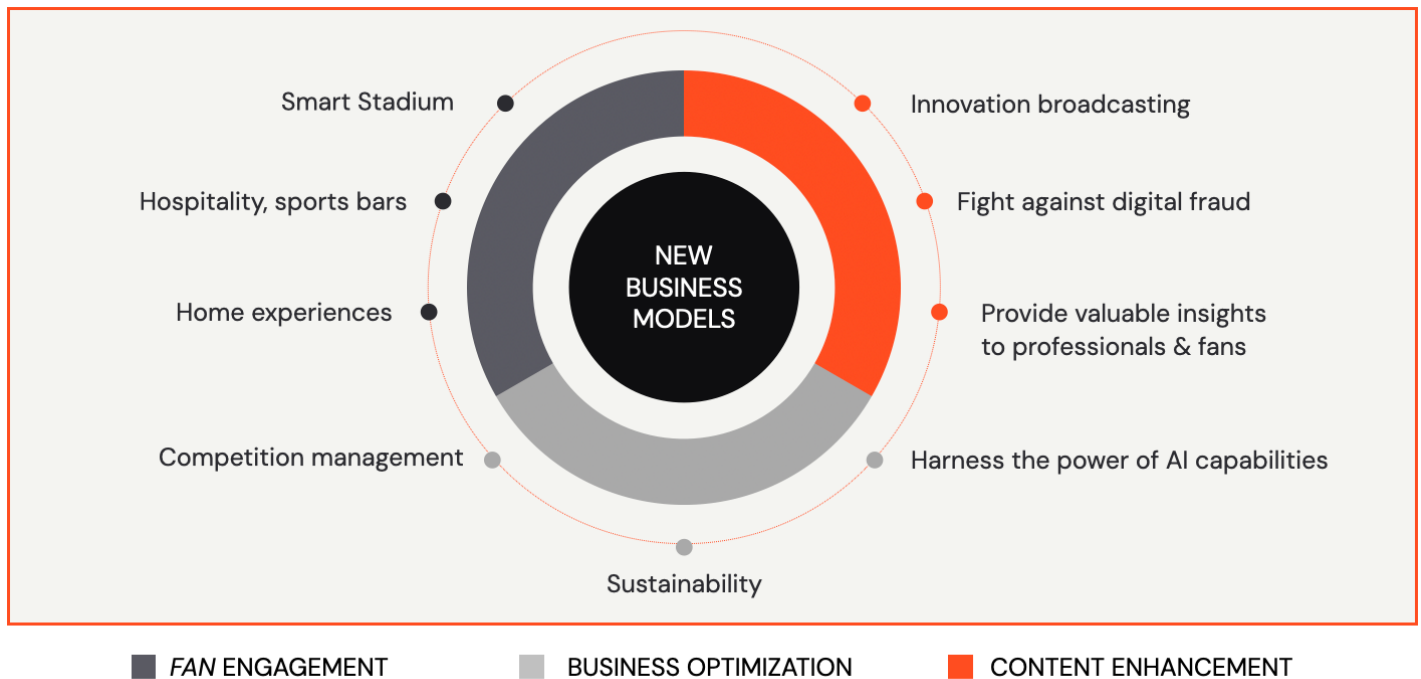
Smart Stadium: development of solutions aimed at transforming the stadium into a more efficient, safe, sustainable and connected space. The aim is to optimise operations, improve mobility and enhance the fan's physical experience before, during and after the match, turning the stadium into a platform for innovation and value creation.

Content and Audiovisual: exploration of new technologies, formats and distribution models that drive the evolution of sports content. This vertical seeks to enrich broadcasts, increase audience loyalty, open up new monetisation channels and strengthen protection against digital fraud.

AI and Operational Excellence: the application of artificial intelligence, data analytics and automation to improve decision-making, optimise internal processes and enhance the organisation's overall performance. This vertical addresses use cases linked to audience analysis, sporting performance, operational efficiency and competition optimisation.

R&D applied to sports performance: the development of scientific knowledge, technology and advanced methodologies to improve match analysis, training and sports decision-making. This vertical connects data, sports science and technical expertise to facilitate the adoption of solutions by coaching staff, reinforcing the impact of innovation on club performance and the competitive evolution of the league.

● 01. LALIGA'S INNOVATION ECOSYSTEM



MEET LALIGA has been one of the open innovation programmes promoted by LALIGA in recent years in collaboration with SportBoost, designed to connect the strategic challenges of the organisation and its clubs with *start-ups*, emerging technologies and new business models applicable to the sports and entertainment industry.

Within this framework, the programme articulates various innovation challenges that enable it to focus on specific priorities, attract international entrepreneurial talent and bring solutions with the potential for impact closer to the real needs of the LALIGA ecosystem. More than a one-off call for proposals, MEET LALIGA functions as a mechanism for exploring, selecting and activating external solutions, aimed at turning technological trends into applicable and scalable opportunities.

Under this programme, MEET LALIGA has addressed three major areas of innovation: *start-ups* with proposals aimed at improving fan engagement, loyalty and monetisation; *start-ups* with AI-based solutions applicable to the sports industry; and proposals that seek to break down the barrier between the physical and digital worlds, such as augmented reality or immersive experiences.

The impact of the MEET LALIGA *innovation challenges*, measured in figures, has been very significant:

- **Technology:** Over 2,500 *start-ups* analysed from more than 30 countries, with 70% international participation.
- **Positioning:** Extensive media reach with over 10 million impressions and a presence at leading events such as the South Summit.

AI and Operational Excellence

Artificial Intelligence is the cross-cutting layer that permeates the entire LALIGA ecosystem, the first football competition to establish a dedicated AI department and a comprehensive transformation plan. It has evolved from traditional predictive models towards a comprehensive agent-based transformation.

This evolution aims to streamline internal processes and enhance the fan experience; it is analysed in depth in the Artificial Intelligence in Organisations section.

The AI strategic plan and the AI Pods

In collaboration with Sportian and Globant, LALIGA has implemented an AI plan based on AI Pods. This model enables the deployment of teams of AI agents supervised by humans to execute complex tasks with unprecedented efficiency.

– **Training and Co-creation:** 100% of LALIGA’s workforce has been trained to interact with AI agents, identifying needs and co-creating bespoke automation solutions. This training has been delivered through courses with a duration of between 7 and 10 hours.

– **Ethical Governance:** LALIGA has defined the ‘10 Commandments of AI’ to ensure the responsible and ethical use of the technology, while always maintaining the critical judgement of human experts regarding machine-generated information. Additionally, employees are receiving mandatory training on the EU’s regulatory framework for Artificial Intelligence.

TABLA
Some examples of AI applications with tangible value

AI PROJECT	TYPE OF AI	BUSINESS IMPACT
Calendar Selector	Predictive	Optimisation of TV schedules and audiences, marketed by Sportian.
Automatic Clipping (in partnership with WSC)	Generative	Real-time video content creation for social media. Reduces manual work.
Project Smart Insights	Generative and advanced analytics	Identification of historical plays similar to live goals to enhance the broadcast.
Financial and Legal Services	Generative	Automated queries and optimisation of internal administrative processes.
Beyond Stats (in partnership with Microsoft)	Advanced Analytics	Translating professional metrics for fans to improve interactive engagement.

AI also plays a key role in international expansion. LALIGA uses automated translation and proofreading tools to adapt its marketing and communications campaigns to specific markets such as China, enabling a continuous global presence. The success story of Alex, LALIGA’s *virtual influencer*, is detailed in the following chapters.

R&D applied to sporting performance

As part of LALIGA's innovation ecosystem, the Football Intelligence department represents the natural evolution of technology applied to sport. Formerly known as the Mediacoach division, this unit has established itself as a centre of scientific and technological knowledge serving the clubs, combining tool development, specialist consultancy and collaboration with universities and research institutions to drive the advancement of sports science.

Its unique value lies in the combination of technological capabilities, scientific knowledge and experience applied to professional football. Under the leadership of multidisciplinary professionals, with PhDs in Sports Science and official coaching qualifications, Football Intelligence has helped to improve the adoption of technology by elite coaching staff, bringing data and advanced analytics closer to the real needs of the game.

In addition to developing and providing technological tools, the team works directly with coaching staff to integrate them into their analysis, training and decision-making processes. This approach allows the value of data to be transferred to the real context of competition, facilitating its practical application in the day-to-day running of clubs and reinforcing LALIGA's role as a platform for R&D applied to sporting performance.

Not surprisingly, the organisation was recognised in 2026 as one of Europe's leading environments for scientific research applied to performance and advanced analysis in professional football, as confirmed by an independent scientific review published in the journal *Cuadernos de Psicología del Deporte*.



The democratisation of data as a competitive advantage

One of LALIGA's fundamental principles is technological democratisation. Unlike other leagues where only the big clubs have access to advanced tools, LALIGA provides exactly the same quantity and quality of data to all 42 clubs in the first and second divisions. This model ensures that the league's competitiveness is more equitable, depending largely on the analytical capacity and applied intelligence of each staff member.

The ecosystem provides integrated tools that have become the daily standard for the more than 700 active users each season. These include:

- **Sportian Performance:** a central platform for technical and tactical analysis based on high-resolution optical tracking data; LALIGA has 16 optical tracking cameras and three tactical cameras per stadium to collect millions of data points per match.
- **Video Review System (VRS):** enables analysts on the bench to receive live video feeds with tactical and medical annotation tools for immediate decision-making.

Coach training programme

This is a pioneering programme designed to train coaches who are not currently working at a club, which was launched by the Football Intelligence department a few years ago.

- **Making the most of downtime:** the period of inactivity is used to enable coaches to update their workflow and familiarise themselves with the latest trends in AI and data analysis.
- **Tangible results:** over 40 coaches have completed these training courses over the last three seasons, ensuring that, when they return to the media spotlight, they do so with a superior technological competitive edge.
- **Talent retention:** this project helps retain talent in LALIGA, as most coaches value the tools and their use. Furthermore, keeping up to date with the competition means they can join a club quickly and integrate straight away, something the clubs view positively.

Conclusions and outlook

Overall, LALIGA's innovation ecosystem demonstrates that innovation acquires true value when it connects internal capabilities, real-world challenges and scaling mechanisms.

Innovation thus becomes a structural driver of competitiveness, capable of generating efficiency, knowledge, new revenue streams, enhanced experiences and technological leadership, radiating from the heart of the organisation outwards across the entire professional football ecosystem.

The near future of the performance ecosystem hinges on the collection of highly reliable data.

LALIGA is currently analysing and testing two technologies that could revolutionise sports analysis in the short term: the chip-embedded ball, which helps determine the exact moment of impact, thereby optimising refereeing (in support of VAR) and providing advanced metrics on speed and shot trajectory; and a technology known as 'Skeleton Data', which tracks the joint points of each player's body up to 25 times per second, enabling the analysis of body orientation, body segments and decision-making with scientific precision.

The interaction between business, technology and specialised development creates a competitive advantage that is difficult for other competitors—who continue to operate under traditional client-supplier models—to replicate.

To remain at the forefront, resilience and technological adaptability are required, along with data sovereignty that ensures independence and enables strategic partnerships.



02.

Artificial
Intelligence
in Sports
Organisations:
LALIGA's
Pioneering Model

Data and AI as a competitive advantage

The sports industry has entered a phase of structural transformation where part of the competitive advantage depends on organisations' ability to process, analyse and act on their data assets.

Within this framework, LALIGA has established itself as a benchmark, as it was the first professional football competition to set up an in-house Artificial Intelligence (AI) department. This move was the culmination of decades of work in predictive analytics and computer vision, now enhanced by agent-based architectures, large language models (LLMs) and a cross-functional approach that integrates all the organisation's processes into an AI layer. This process has been empowered by Globant and executed by Sportian.

This section examines the current market landscape and details LALIGA's strategic initiatives, setting out the roadmap required to establish a smart and autonomous sports organisation.

Global market, layered architecture and technological independence

The global artificial intelligence ecosystem in 2025–2026 has been defined by a transition: the shift from mass experimentation to the industrialisation of value. According to the *Stanford AI Index 2025* report, the performance of AI systems has surpassed human benchmarks in complex cognitive tasks, ranging from natural language understanding to competitive-level mathematical reasoning.

Layered architecture: From infrastructure to agentic intelligence

LALIGA understands AI through a model of three interconnected layers.

The first is the hardware and computing infrastructure layer, which refers to the machines; it includes graphics processing units (GPUs) and cloud data centres that provide the raw power and energy required for AI to function. The cost of training models has grown exponentially: current models such as Llama 3.1 405B require massive investments in GPUs and energy. LALIGA has mitigated these risks through strategic partnerships, gaining access to an elastic infrastructure that enables the processing of millions of data points without the burden of *on-premise* hardware maintenance.

● 02. AI IN ORGANISATIONS

The second layer consists of Foundation Models. These provide the core intelligence using models such as GPT-4 or Llama that have been trained on millions of data points to understand language, recognise images, and reason. The *Stanford AI Index 2025* highlights that the gap between closed-source models (such as GPT-4) and open-source models (such as DeepSeek-V3 or Llama 3) has almost disappeared, with a performance difference of just 1.7% across many benchmarks. This gives organisations unprecedented freedom to deploy sovereign models that do not rely on a single external API, enabling greater protection of privacy and sensitive data.

Finally, the third layer focuses on the application and AI Agents, geared towards execution. These are end-user tools and agents capable of performing tasks autonomously, such as drafting emails, video editing or optimising match schedules, acting as executors of complex processes without the need for constant supervision.

Unlike traditional chatbots, which merely respond to requests or questions, agents are systems capable of planning tasks, using tools (such as *APIs*), reasoning about results, and carrying out actions in the real world under human supervision. McKinsey estimates that, although 88% of companies use AI, only a third are scaling these capabilities effectively, and it is the *High Performers* who are redesigning their workflows around these autonomous agents.

Technological sovereignty

An emerging concept in Deloitte's 2026 reports is 'Sovereign AI'. In simple terms, it is an organisation's ability to develop and operate its own artificial intelligence using its own data; this does not prevent them from leveraging third-party models.

Over 70% of organisations consider the geographical origin of the technology a determining factor in their selection.

For a competition such as LALIGA, technological sovereignty means that the design, training and deployment of AI are carried out within its own legal frameworks, on controlled infrastructure and using governed local data. This reduces dependence on foreign suppliers who could be affected by geopolitical tensions or drastic regulatory changes, ensuring the institution's long-term resilience.

Impact on the sports industry: organisational management, *fan engagement* and performance

AI has moved beyond being a promise for the future to become the operating system of modern sport. As we shall see below, its impact is felt across the board in operational efficiency, *fan engagement* and sporting performance.

Management: from reaction to operational proactivity

The technology generates internal and external benefits that directly impact the core of the business. As Sepi Motamedi, Head of Sports Marketing at NVIDIA, points out, at the organisational level, AI is already transforming the operations, competitiveness and *engagement* of sports organisations with their fans. We are witnessing a clear transition: from isolated tools towards agent-based systems fully integrated into daily workflows.

Internally, the implementation of advanced AI-based platforms boosts productivity by automating repetitive processes, allowing teams to focus on tasks of greater strategic value in areas such as performance, *media*, *fan engagement* and commercial operations. As for the ecosystem, the fundamental role of accelerated infrastructure, *B2B* software and specialist partners—such as Sportian’s collaboration with LALIGA—is key to ensuring these use cases are practical and scalable.

This marks the beginning of a paradigm shift: AI is moving beyond a series of experimental pilots to become the very operational fabric of leagues and clubs, redefining decision-making and value creation across the entire sports industry.

Managing large sports organisations involves coordinating people, complex schedules, stadium security and logistics fleets, amongst other requirements that can be automated and made more efficient through the use of technology.

LALIGA has focused on this area through advanced training programmes and an agent-based AI programme that enables the creation of bespoke solutions tailored to specific needs, across all departments.

Furthermore, *machine learning* and predictive analytics have been used in competition for years to automate tasks. In this area, predictive AI is used for tools such as Calendar Selector, marketed by Sportian, which evaluates over 3 million combinations to determine the optimal schedule for each match, balancing variables such as physical attendance, global television audiences and weather conditions.

● 02. AI IN ORGANISATIONS

In venue management, *Physical AI* is enabling the creation of digital twins for stadium management. These models allow the simulation of crowd flows during emergencies or days of high demand, optimising the deployment of security staff and hospitality services. According to Deloitte, the shift from reactive to proactive and predictive management reduces operational maintenance costs and significantly improves the spectator experience by eliminating bottlenecks at access points.

Fan Engagement: The Fandom Flywheel and Hyper-Personalisation

Today's spectator wants to interact with content in a dynamic way. The *Fandom Flywheel* concept describes a continuous cycle where every *fan* action generates data, which AI processes to deliver even more relevant, personalised content, fuelling growing loyalty.

LALIGA automates the creation of video clips (clipping) of highlights using WSC Sports technology, employing visual analysis technologies to process ambient audio and ball movement, identifying the most exciting moments in real time. The league is also working on projects that identify past plays similar to live goals to enrich the broadcast.

Generative AI is enabling levels of personalisation that were previously unattainable at scale. Systems can generate real-time commentary tailored to the user's profile, translate content into dozens of languages instantly, and create virtual avatars that interact with fans on social media platforms. In this regard, LALIGA launched Alex, the first *virtual influencer*. His use case is discussed in depth in the following section on *virtual influencers*.

Furthermore, platforms such as Beyond Stats, a project launched in partnership with Microsoft, are democratising access to advanced analytics via social media and the broadcast itself, enabling casual fans to understand complex metrics such as goal probability or finishing efficiency—elements previously only handled by elite analysts.

Performance: Data science on the pitch

Sports performance has reached a point where further improvement lies in data. According to studies by Globant, the integration of AI into sport is expected to boost both individual and team performance, with an estimated 17% improvement for athletes and an average of 28% for teams.

● 02. AI IN ORGANISATIONS

At an individual level, AI enables the creation of ultra-personalised training and nutrition regimens. By consolidating disparate data and using biomechanical analysis, athletes can correct minute technical errors and maximise their physical potential based on scientific evidence rather than just on how they feel.

At a team level, the improvement is greater due to match simulations. AI gives coaching staff the ability to anticipate performance against specific opponents, identifying the rival's tactical vulnerabilities and optimising real-time decision-making during matches.

LALIGA, through Sportian Performance (an evolution of its former proprietary platform, Mediacoach), provides the 42 clubs with high-precision *tracking* data via 16 fixed cameras installed in each stadium, capturing over 3.5 million data points per match, amongst other initiatives we will look at later.

LALIGA, alongside Globant and Sportian, is working on other projects in collaboration with biomechanical experts in AI applied to technical performance. Through the analysis of historical data and computer vision, types of plays are broken down to define 'perfect' models.

This data has various applications, such as feeding into models that predict the risk of injury – which can achieve success rates of up to 96 per cent – enabling fitness coaches to adjust training loads before a muscle tear occurs. Furthermore, through the analysis of historical data and computer vision, types of plays are broken down to define 'perfect' models.

Success story: The Baskonia-Alavés Group and *The Faktory* ecosystem

The Baskonia-Alavés Group, under the leadership of Aitor Jiménez as Chief Innovation, Technology and New Business Officer, is at the forefront of this transformation, recognising that artificial intelligence should not be a siloed department, but rather a cultural shift.

Through its innovation and new business platform known as *The Faktory*, the group has moved beyond the traditional sports club model to become an open ecosystem that connects the sports industry with top-tier tech *start-ups* and corporations under three strategic collaboration models, including: the validation of existing solutions, the co-development of new products in living labs, and direct investment. This proactive vision enables the organisation to move beyond being a mere consumer of technology and position itself as a strategic partner capable of co-creating the tools that the industry will demand in the coming years.

● 02. AI IN ORGANISATIONS

Recently, the Baskonia-Alavés Group and Multiverse Computing have reached a strategic collaboration agreement that brings together elite sport with the most advanced technological innovation. This alliance was born out of a broad and transformative vision: it does not focus solely on sporting performance, but aims to drive the real-world application of artificial intelligence and quantum computing across the entire sports industry, covering areas such as sport itself, *fan engagement* and experience, infrastructure, and corporate optimisation across all areas of the group.

Furthermore, in this field, The Baskonia-Alavés Group is co-organising, alongside LALIGA Business School, an executive course on Artificial Intelligence applied to the sports industry.

The impact on sporting performance and athlete health is addressed from a holistic perspective that integrates mental wellbeing and technical precision using state-of-the-art tools. The group has conducted trials with artificial intelligence bots developed with Saturno Labs to manage players' emotional state, a critical factor in high performance that was traditionally difficult to measure. This approach is complemented by the implementation of virtual reality through solutions such as Be Your Best to improve decision-making on the pitch, and disruptive bio-monitoring systems, such as Kamleon's smart urinals to measure hydration in real time, consolidating an environment where scientific data replaces mere gut feelings.

Finally, the Baskonia-Alavés Group has redefined its relationship with fans by shifting the focus from one-off events to a strategy of continuous entertainment supported by *gaming*. As the first sports club in the world to launch its own map and game within Fortnite, as well as establishing a presence in other games such as Outer Ring and Racer Loop, the organisation has succeeded in connecting with new global audiences in an immersive way. This loyalty cycle aims to have fans interact with the club 24 hours a day, regardless of sporting results, transforming the traditional relationship into an enriched digital experience where AI personalises every touchpoint and ensures the brand's relevance in a highly competitive global market.

AI at LALIGA: Internal efficiency, training and asset protection

LALIGA is driving a Strategic AI Plan aimed at improving internal efficiency, strengthening the capabilities of its teams and evolving the organisation's way of working. Under the Technology, Innovation and Artificial Intelligence division, led by the Director of Technology, Innovation and AI, Prasanna Kumar, and with Javier Gil as Head of AI Development, the plan combines training, real-world adoption, agent co-creation, progressive automation and strategic projects with cross-functional impact. The aim is not to incorporate technology in isolation, but to integrate AI into daily processes with security, governance and critical thinking, so that it acts as a support to human talent and enables departments to work better, make better decisions and devote more time to higher-value tasks.

Structure and dynamics of the AI department

LALIGA's AI department was established as a cross-functional partner for the business areas, supporting them in the identification, prioritisation and implementation of AI-based use cases.

Currently integrated within the new Technology, Innovation and AI division, the department reinforces LALIGA's commitment to making AI a strategic lever for efficiency, innovation and internal transformation.

The working model is based on three principles: each project must address a real business need, have a clear point of contact within the relevant area, and include an impact analysis to assess its viability and return on investment.

Following an initial phase focused on awareness-raising and internal training, the department has evolved towards a model of co-creation with teams, aimed at designing applicable solutions, automating value-added processes and scaling the use of AI within the organisation.

Training Plan: Reinventing Talent and the Human Factor

Accenture highlights that only 5% of organisations are training their staff in AI on a large scale, and LALIGA is among this leading group. The training programme has reached 100% of the workforce (more than 600 employees). The results of the internal pilot in the 24/25 season to measure the impact of AI tools were compelling: daily use of the tools rose from 33% to 72%, and a third of employees reported savings of between 2 and 4 hours per week in reactive work. This *feedback* prompted the implementation of the plan and its roll-out in the 25/26 season.

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For LALIGA, the human factor is the key to trust. The framework is designed so that technology reduces stress and *burnout* by eliminating repetitive tasks and allowing staff to focus on tasks of greater creative and strategic value.

The AI Strategic Plan for the 2025/26 season has consolidated this evolution and marks the transition from training to practical adoption. Its aim is to integrate artificial intelligence into the daily work of all employees, combining operational efficiency, agent co-creation, departmental development and strategic projects with cross-cutting impact. All of this is guided by a clear principle: AI must act as a support to human talent, not as a substitute, reinforcing professional judgement, individual responsibility and the ethical use of technology.

Asset protection: leadership in anti-piracy and fraud

The protection of audiovisual rights is vital to LALIGA's financial sustainability. The Anti-Fraud department is a global leader, with its own laboratory of over 25 experts who collaborate with legal and technology teams.

The tools developed in-house and marketed by Sportian have enabled the removal of millions of illegal content sources, recovering an estimated value of up to €200 million annually that was previously lost to piracy. Below are some of the systems and tools used:

- **Piracy Guard:** scans the main social media platforms (Meta, YouTube, TikTok, X) in real time to identify unauthorised live streams. Its strength lies in its ability to detect and request the immediate removal of content before the event ends.

- **Sentinel (IPTV & Web Apps):** a tool specialising in the detection and analysis of illegal signals within *streaming* ecosystems. Its technical capabilities enable the extraction of digital evidence from servers to support legal action, as well as mapping global infrastructures to trace the origins of organised piracy networks and *card-sharing* platforms.

- **Nexus:** a comprehensive blocking and reporting management platform. Nexus acts as the command centre where court orders to block domains are managed, technical reports sent to ISPs (Internet Service Providers) are coordinated, and operational intelligence is centralised to dismantle end-user access to pirated content.

Comparative leadership: democratisation of data

LALIGA provides its 42 clubs with the same quality of data, tools and ready-to-use applications (such as Sportian Performance), enabling teams with fewer resources to compete on a level analytical playing field. Furthermore, the Football Intelligence department provides clubs with weekly analyses of performance data.

Other models typically provide raw data so that each club can build its own analytics; in contrast, LALIGA's model is based on the 'democratisation of data'.

This comprehensive approach has attracted the interest of other global competitions, which have acquired the technology developed by LALIGA through Sportian (the joint venture created by LALIGA with Globant)..

Future: Agent-based AI, digital twins and hyper-personalisation

The outlook for 2028–2030 points to a convergence of technologies that will redefine the very nature of work and sports entertainment.

Agentic AI: the autonomous collaborator

Gartner predicts that by 2028, 15% of day-to-day business decisions will be made autonomously by AI agents.

At LALIGA, the transition towards an agent-based organisation is underpinned by the implementation of AI Pods across its strategic departments. These teams of specialised agents are capable of monitoring and executing complex tasks without constant manual intervention.

85% of organisations expect to customise these agents to operate according to their own business criteria, transforming AI from a consultation tool into a virtual workforce.

Hyper-personalised content

Streaming platforms and content broadcasters are implementing hyper-personalised experiences where the user takes control. Thanks to AI that understands both the game's narrative and the viewer's preferences, fans can now choose camera angles, commentary styles, real-time data overlays and the depth of statistics.

Furthermore, generative and spatial technologies are blurring the line between live and virtual viewing, introducing alternative AI-generated feeds, overlaid instructional graphics and immersive 3D ‘game rooms’.

Virtual Influencers and Digital Twins

The culmination of agentic and generative AI is the creation of virtual influencers and digital twins.

As Lalo García, CEO of Hubln, a sports innovation consultancy, rightly points out, digital twins for athletes, or Athlete Management Systems (AMS), represent the definitive leap towards data-driven high performance. This technology involves creating a dynamic virtual replica of an athlete to simulate scenarios and predict behaviour.

Through comprehensive data collection, the digital twin combines physical, training, competition and rest variables. This integration enables a deep contextual understanding of how each player reacts to specific factors, such as the weather or the strain of travel, facilitating proactive injury prevention. By simulating various workloads on the virtual ‘clone’, coaches can identify critical points of physical breakdown before they actually occur.

Off the pitch, the digital twin is applied to consumer behaviour. Segmentation is no longer based on generic groups, but on individual “clones”. Thus, through behavioural modelling, clubs develop digital replicas of their fans’ interactions, tracking consumption habits, content, stadium arrival patterns, trips with the team and social media interaction, amongst other things. This level of insight allows them to understand the value of each fan to the club and, with the support of AI, predict how to maximise it. Having this information minimises the risk of *churn* or enables the club to offer the ideal product or experience at the precise moment when the fan is most likely to make a purchase, transforming traditional communication into a predictive monetisation architecture. As a result, the fan’s lifetime value (*LTV*) within the club’s ecosystem is optimised.

As for virtual influencers, these digital characters will be able to interact in real time with millions of fans in their own languages, creating scalability and a layer of *engagement* that never stops. The integration of these influencers into the commercial ecosystem will enable new forms of sponsorship and *storytelling*, connecting with younger generations who already inhabit immersive digital environments. This point is discussed in depth in the section on virtual influencers.

Smart Stadiums and Physical AI

More and more venues are adopting AI-optimised operations, using real-time data to manage crowd flows, security, concessions and energy consumption. The implementation of *Edge AI* is beginning to power smart environments, real-time incident detection systems and far more personalised in-stadium experiences, ensuring an environment that is not only more efficient, but also safer and smoother for the spectator.

Meanwhile, *Physical AI* and robotics are bridging the gap between the digital and physical worlds. Foundational models for robotics, such as NVIDIA GROOT, are enabling humanoids to learn how to perform complex tasks by observing human videos. In sport, this will translate into stadiums operated by autonomous maintenance systems, logistics robots for managing merchandising stock and, potentially, robotic coaches capable of executing high-precision physical exercises for training goalkeepers or other players.

Conclusions and strategic recommendations

To transform an organisation using technology such as AI, it is not enough to simply provide tools or launch isolated pilot projects. It is necessary to build an adoption model with strategic direction, governance, operational criteria and a genuine capacity for execution. The key lies in deciding where to apply AI, how to integrate it into processes and what role people should play in this evolution.

For sports organisations aspiring to lead the next decade, some key strategic priorities are:

1-Prioritise activation over access: simply making tools available to employees is not enough. Adoption must be accompanied by training, practical examples, usage measurement and monitoring of real-world impact. The aim is for the organisation to incorporate AI in a useful, secure and results-oriented manner.

2-Adopt an MVP approach: starting with limited use cases, testing results and scaling progressively allows for risk reduction, impact validation and learning before rolling out solutions across the entire organisation. AI must advance rapidly, but also judiciously, avoiding turning every test into a permanent pilot.

3-Create scalable processes that solve real problems: solutions must be based on specific business needs rather than the technology available at any given time. To make an impact, each initiative must address a well-defined problem, have clear accountability, be replicable in other areas, and avoid internal bureaucracy that hinders its adoption.

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4-Strengthen AI governance: the adoption of AI requires a clear framework for decision-making, control and accountability. It is necessary to define which processes are automated, which tools are used, what data is involved, who validates the results and how the impact is measured. Governing AI does not mean slowing down innovation, but ensuring that it is developed with traceability, security and consistency.

5-Standardise data, processes and working criteria: AI can only scale if the organisation works with reliable information, well-defined processes and consistent criteria. Standardisation improves quality, facilitates interoperability between departments, reduces duplication and turns one-off solutions into reusable capabilities.

6-Develop critical thinking across the organisation: in an increasingly AI-assisted environment, the key differentiator lies in knowing how to interpret, question and validate its results. Human oversight, professional judgement and the ability to decide when AI adds value and when it does not are essential skills for responsible adoption.

7-Identify profiles to lead the change: transformation depends on technology and on people capable of understanding processes, questioning current ways of working and leading their evolution. Organisations will need profiles with a cross-functional perspective, change management skills and the ability to bridge business, technology and operations.

8-Accept that AI entails a profound evolution of work: the incorporation of AI should not be viewed as an incremental improvement or as an additional layer on top of existing processes. It involves a thorough review of how work is carried out, how decisions are made, how tasks are automated and how value is generated. The challenge is not to do the same thing faster, but to redesign processes so that people can focus on activities with greater impact.

LALIGA has embarked on this path with an approach that combines training, co-creation of solutions, responsible governance and the evolution of departments. AI is seen as a lever to improve operational efficiency, strengthen the competitiveness of clubs and enhance the *fan* experience, but also as an opportunity to profoundly transform internal work processes. The challenge in the coming years will be to consolidate this evolution with sound judgement, control and profiles capable of leading change from within the organisation.



03.

Virtual
Influencers
and the new
era of sports
entertainment

The paradigm shift and the global market

The entertainment and digital content industry is undergoing a structural metamorphosis driven by generative artificial intelligence and a shift in the way new generations interact with digital content.

In this context, LALIGA fully understands that attention is the scarcest asset in the modern economy, particularly among younger generations. With the aim of creating scalable content that connects with younger audiences, LALIGA created Alex, the first virtual influencer to lead the narrative of a professional sports league. Furthermore, the organisation is committing to influencer marketing as an integral part of its communication strategy.

To understand this strategy, it is essential to analyse the state of the art of the influencer industry globally. Influencer marketing has moved beyond being an experimental tactic to become a central pillar of marketing budgets, with investment growing by more than 25% annually in recent years.

In terms of *engagement*, the industry is facing an 'attention crisis' caused by content overload and social media algorithms.

Virtual influencers offer a disruptive solution to the challenges of scalability and control that human talent cannot always guarantee. The global virtual influencer market is experiencing exponential growth. Valued at approximately €9 billion in 2025, this category is projected to reach €15.9 billion in 2026, with a compound annual growth rate (CAGR) of 41.7% through to 2030.

This growth is driven by the deep integration of *deep learning* and natural language processing (NLP) technologies, which enable these characters to develop adaptive behaviours and stronger emotional connections with their audiences.

Strategic Comparison: *Human Influencers vs. Virtual Influencers*

To understand this emerging category, below is a detailed comparison of the key metrics in terms of costs, risks and operational capabilities that define both categories looking ahead to 2026:

COMPARISON TABLE
Human influencer vs virtual influencer

Analysis Variable	Human Influencer	Virtual Influencer
Production Cost	Variable (Subject to ‘fees’ and logistics).	High initial (setup), low recurring.
Scalability	Limited by biology and schedule.	Infinite (24/7 content in multiple languages).
Brand risk and control	High (reputational crises, conduct).	Minimal (total control over the message).
Emotional connection (authenticity)	Depends on the profile.	Risk of being perceived as cold or inhuman.
Engagement rate	Average 3.1%.	Average 8.7% (up to 3 times higher).
Longevity	Limited lifespan (ageing).	Unchangeable (eternally young or evolving).
Adaptability	Requires translation/dubbing.	Scalable via audio AI.

Operational efficiency is one of the main drivers of this adoption, making it complementary to its human counterparts within a 360° strategy. While manual campaign management with humans can take up to 12 weeks of preparation, the use of AI platforms reduces these cycles to just a few weeks, optimising response times to viral trends. However, the main challenge for virtual influencers remains the perception of authenticity; although Gen Z trusts product recommendations from avatars by more than 75%, there is still a segment of the population that finds these figures less emotionally ‘real’.

Cultural acceptance: Asia vs the West

The cultural divide between the Asia-Pacific and the West explains why virtual influencers are significantly more widely adopted in the Asian market.

Asia’s Leadership: The Normalisation of the Synthetic

In Asia, particularly in China, South Korea and Japan, technology is organically integrated into daily life, which has facilitated almost total acceptance of digital avatars in mass entertainment. In China, 60% of internet users actively follow virtual idols. The Chinese government has included the development of the metaverse and AI in its five-year plan, providing an institutional framework that accelerates innovation in this sector.

Characters such as Rozy in South Korea or Ayayi in China are viewed as fully-fledged celebrities who collaborate with luxury brands such as Porsche or Prada. In these markets, avatars host television programmes and perform virtual concerts before massive audiences, demonstrating that the barrier between the biological and the digital has been culturally overcome.

The West: Between Innovation and Ethical Regulation

In the United States and Europe, adoption is robust, though conditioned by high demands for transparency and authenticity; this is true even in the US market, where familiarity with the technology is greater than in Europe.

57% of Western consumers believe that digital clones can erode trust if not managed honestly. This has led to the emergence of specific regulatory frameworks, such as the pioneering New York State law requiring the explicit disclosure of the use of *synthetic performers* in commercial campaigns.

Despite these reservations, the North American market remains the largest in terms of current revenue (accounting for approximately 40% of the global market by 2025), driven by advanced technological infrastructure and the presence of major social media platforms.

Notable use cases include Lil Miquela, launched from Los Angeles on Instagram in 2016 as a 19-year-old linked to the world of fashion and lifestyle. Her collaboration with luxury brands such as Prada and Calvin Klein demonstrated that a digital avatar can influence consumer decisions within the premium segment. Today she has over 2 million followers and has become a benchmark for the commercial and cultural potential of this format.

Spain: innovation with purpose and ethics

In Spain, the virtual influencer ecosystem is maturing with a clear focus on responsibility and integration into traditional media. There are notable success stories that illustrate this trend:

- **Alba Renai (@albarenai):** Created by BE A LION, she is the first Spanish *virtual influencer* trained using generative AI. Beyond her role in the lifestyle sector and her collaborations with brands such as Hyundai and Meliá, Alba stands out for her ethical dimension: she starred in the short film Thing Girl to denounce the misuse of AI. Her most high-profile achievement was her participation in Supervivientes (Telecinco), becoming the first virtual presenter of a major television programme in Spain.

- **Arán (Ecovidrio):** He represents the application of technology in the service of sustainability. This *virtual influencer* acts as an ambassador for glass recycling, humanising the environmental message through social media content and appearances at events using holographic technology. Arán not only educates the audience but also acts as a catalyst for internal innovation for the brand.

- **ALEX:** LALIGA's *virtual influencer* and brand ambassador, is part of a creative and communications project aligned with the organisation's mission: to take the values of football further. The success story is detailed below.

The LALIGA Success Story: Alex and the Humanisation of Data

Origins and Strategic Purpose

Alex embodies LALIGA's vision of technological leadership and intergenerational connection. As the first *virtual influencer* for a football competition, he was created with several objectives in mind:

- To capture and retain the attention of saturated audiences, breaking the 'scroll habit'.
- To connect authentically with young, digitally native audiences through creative codes that feel natural and relevant to them.
- To amplify the brand narrative, maximising the benefits of reducing other types of risk and creating an "ambassador" who could maintain the same face across all international markets.
- To harness new forms of creativity, engagement and multi-channel presence.
- To activate transmedia narratives and hybrid or phygital (physical and digital) formats that amplify engagement and ensure a consistent, adaptable and scalable presence across multiple channels.
- To generate content quickly, without friction in terms of scheduling, logistics and communication.

The launch of Alex exceeded expectations, achieving over 180 mentions in national and international media and generating an estimated media value (EMV) of over €900,000. Beyond the media impact, what is truly significant is that a strategic asset was created for the brand that takes the values of football further and connects genuinely with younger generations in regions such as Asia, while also being capable of addressing *fans* in China or the Arab world in their own native languages with perfect fluency, amongst other scalable features.

Evolution: From content to service

One of Alex's most significant transitions has been his evolution from content creator to service spokesperson and international brand ambassador, particularly in markets such as Asia. LALIGA recognised that competing in the saturated market of pure football entertainment creators detracted from the character's authenticity. His role therefore focuses on providing an additional layer of presence as LALIGA's multilingual ambassador, serving as a unifying figure for the competition's presence in key regions.

Thus, Alex occupies a space where precision and access to exclusive data are as valuable as the physical 'experience' of the stadium. This strategic decision allowed Alex to avoid the negative perception of 'replacing' real 'figures', positioning himself as an ambassador who complements LALIGA's presence in strategic countries and is recognisable to all *fans*.

Technical challenges and learning consistency

Alex's development has been shaped by the need to balance constant innovation with visual consistency. As a generative AI product, maintaining the character's identity while testing new video and realism tools has been one of the greatest technical challenges. Technological evolution has been strategically prioritised over absolute visual continuity, on the understanding that young fans value the quality of the *output* and the surprise of realism more than rigid fidelity to a previous design.

Technological architecture: the metahuman as a data node and generative AI

From the perspective of leaders in the field such as Javier Gil of LALIGA and Gonzalo Zarza of Sportian, a *virtual influencer* is an interactive 'data node' that acts as an interface between the organisation's complex AI systems and the end user.

The creation and management of Alex rely on a sophisticated *technology stack* that integrates multiple layers of artificial intelligence:

- **Visual Generation:** Tools such as Midjourney, Stable Diffusion and Flux enable the creation of a coherent aesthetic foundation, while solutions such as Kling 3.0 or Runway Gen-3 allow the character to be animated with cinematic realism for up to 15 seconds per clip.
- **Audio and Voice:** Voice synthesis using ElevenLabs was critical in giving virtual influencers a credible, multilingual vocal personality, allowing the same character to speak in Chinese, Arabic or Spanish without losing their essence.
- **Personality Modelling:** The integration of language models (LLMs) enables real-time data processing and the generation of contextual responses, making it an agent-based system capable of handling questions autonomously.

The potential impact of *Smart Stadiums* on the sector

Gonzalo Zarza highlights that one of the potential future use cases for these characters relates to the exploitation of the *Smart Venue*. The medium-term vision (2–5 years) envisages virtual influencers such as Alex interacting with fans in the stadium itself via mixed-reality glasses or high-resolution screens, thanks to improved cloud processing capacity and reduced latency on 5G/6G networks.

Alex doesn't just live on the fan's mobile; he lives within LALIGA's data infrastructure, ready to appear at any touchpoint, be it an app, a broadcast or a hologram on the pitch itself.

The BE A LION perspective

The methodology behind the first *virtual influencer*

BE A LION, as LALIGA's strategic developer on this project, brings a methodological vision that goes beyond the technical to delve into the psychology of the fan. For Silvia Velasco, CEO of BE A LION, a company within the Mediaset group, the creation of Alex or other influencers such as Alba Renai is based on the premise that "a *virtual influencer* is not just a pretty face; they need purpose and a narrative".

Engineering Credibility

BE A LION's methodology for combating the "risk of authenticity" focuses on deliberate imperfection. Humans aren't perfect, and an avatar that is perfect triggers a subconscious aversion. For this reason, "micro-imperfections" are incorporated into the design of these characters: slight asymmetries, uneven skin texture, or subtle variations in the sparkle of their eyes.

The creative process begins with an in-depth strategic phase:

- 1. Quantitative Analysis:** The interests of younger generations are analysed through large-scale surveys and focus groups.
- 2. Personality Modelling:** The value system and communication style are defined using algorithms that process the language of the target audience.
- 3. Validation:** Before public launch, the visual design is tested with control groups to ensure the emotional response is positive rather than one of bewilderment.

Ethics and Transparency as a Brand Pillar

BE A LION has developed, in collaboration with the University of Málaga, the first code of ethics to regulate the conduct of virtual influencers. This code guarantees transparency regarding the artificial nature of the profile, prohibits the impersonation of real people, and establishes mechanisms for constant human supervision to prevent bias or misuse of the technology. In a world of *deepfakes and misinformation*, the fan's trust is a valuable asset, and it can only be maintained through radical honesty about what is real and what is AI-generated.

Vision for the future

For Silvia, the future of the industry lies in putting the fan at the centre through interactive and personalised content, integrating technologies such as AI and augmented reality to create immersive experiences where fans not only consume, but also create and live the story of sport and entertainment.

The *virtual influencer* as an asset: Intellectual property and monetisation

From the perspective of leading investors such as LeadVC or Wylab, *virtual influencers* represent a significant shift in the valuation of communication assets. Federico Smanio, CEO of Wylab, a pioneering *SportsTech* accelerator and investor in Italy, points out that the ability to produce potentially infinite content at a decreasing marginal cost is a “sure bet” for sports properties seeking a B2C model.

The ROI of Digital Eternity

Human influencers bring the authenticity of an organic connection and the spontaneity of the moment; virtual influencers present themselves as a complementary strategic asset with their own dynamics.

Unlike the natural life cycle of a conventional *influencer* or the volatility inherent in human reputation, the *virtual influencer* functions as perpetual Intellectual Property (IP). This duality allows brands to balance their campaigns: they can rely on the charisma and emotional connection of a real celebrity, while using the virtual avatar to build a long-term asset, enabling the initial investment to be recouped over decades in a controlled and stable manner.

The revenue streams identified for these profiles include:

- **Direct Sponsorship:** brands wishing to partner with an avatar, controlling the message and reducing the volatility of other sponsorship alternatives.
- **Social Commerce:** avatars with digital shopfronts integrated into Instagram or TikTok, enabling direct purchases from the content.
- **Creation of virtual influencers by brands:** this helps maintain total control over the message and monetise their presence in marketing, customer service or *e-commerce*.
- **Co-branding and own-brand products:** many *virtual influencers* launch collections in collaboration with brands or develop their own lines.
- **Licensing in video games, series or comics:** Alex or Alba Renai can become playable characters or skins on platforms such as Roblox or Fortnite, opening up cross-cutting revenue streams.
- **Music and entertainment industry:** some avatars release songs, sign record deals or hold virtual concerts. Hatsune Miku is the most established example: she sells out concerts and collaborates with real artists, proving that a virtual character can generate revenue comparable to that of a human celebrity.
- **Virtual fashion shows:** events in digital worlds, skins for video games or sponsored experiences in virtual environments represent a new source of revenue. Brands find here a natural space to collaborate with avatars that already belong to the digital environment.
- **NFTs and digital assets:** monetisation via NFTs allows for the sale of unique digital items, exclusive experiences or extensions of the influencer’s narrative universe.

One of the key factors is disintermediation: the entity using the *virtual influencer* owns the channel, the talent and the data, capturing the full value of the chain without relying on external agents.

Trends and the future: agentic convergence

The 2026–2030 outlook presents an evolution towards total autonomy, where *virtual influencers*, through agentic intelligence, will have the capacity to actively manage communities.

1. Real-time interaction: the combination of generative video AI and low latency will enable *virtual influencers* to take part in Twitch live streams or match broadcasts, reacting to goals or chat comments instantly and in an emotionally intelligent way.

2. Radical personalisation: thanks to platform data analytics, personalised video messages can be sent to millions of fans, mentioning their name and favourite team, creating a bond of loyalty that was previously impossible to scale.

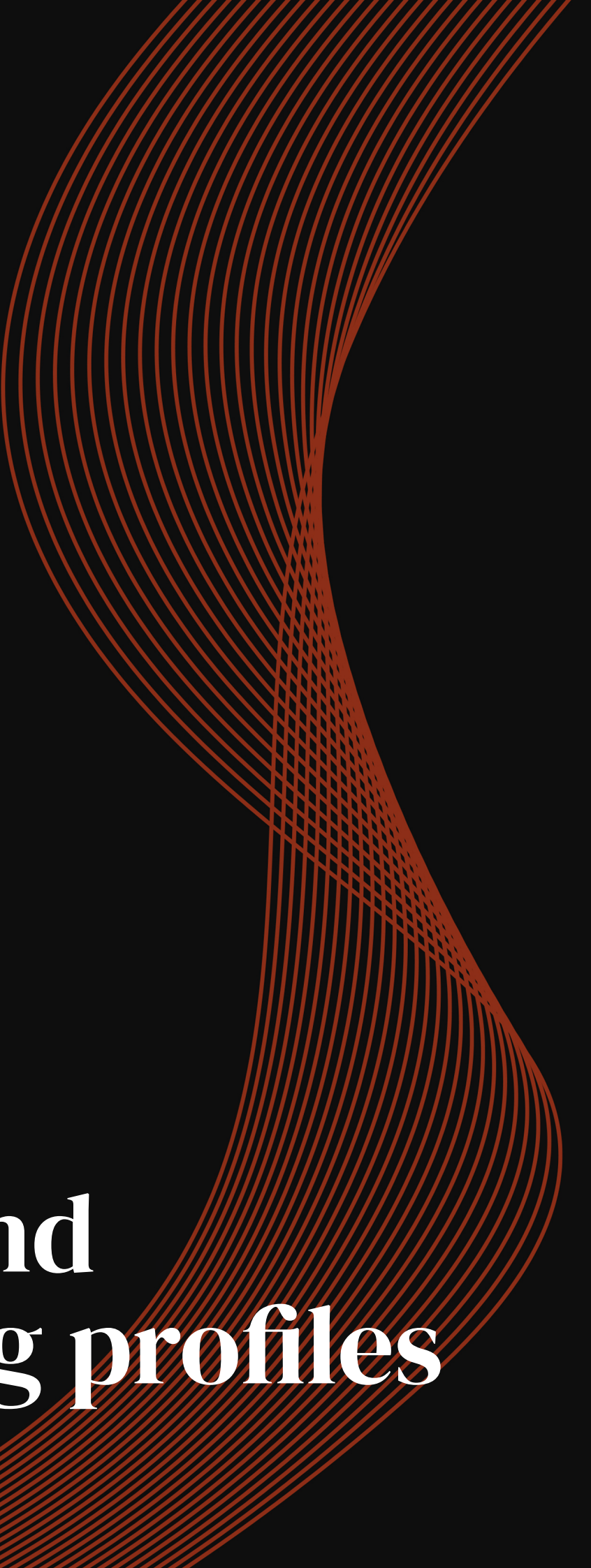
3. Digital twins as life assistants: avatars will evolve into personal assistants for fans, helping them manage their tickets, responsible sports betting or training routines, becoming every *fan's* 'digital teammate'.

The need for new professional profiles

The implementation of these ecosystems in organisations such as LALIGA is transforming the sports and media job market. Javier Gil, an AI expert, emphasises that, although AI automates tasks, it does not replace the “critical expert role”.

LALIGA has already trained 100% of its workforce (over 600 employees) in the use of AI tools, recognising that human talent must evolve to manage technology, streamlining processes and improving results.

This operational transformation suggests that the future of sport will involve hybrid profiles combining technology and sports expertise; we will explore this in the next section.



04.

Talent and
emerging profiles

Talent and emerging profiles

In a global and cross-sectoral labour market, characterised by a structural shortage of technical profiles, the sports sector can differentiate itself through a distinctive value proposition: purpose and a sense of belonging. This is according to Hays, one of the leading consultancies in recruitment and human resources solutions.

In this scenario, where technology is the playing field, the human factor acts as a strategic enabler. It is talent that ensures innovation is sustainable, applicable and human-centred, rather than an end in itself.

In this section, we analyse the sports talent market, emerging technology-related roles, trends surrounding the introduction of AI, and LALIGA's cutting-edge strategy.

Global outlook: the talent market on the horizon for 2026

The working environment of 2026 is marked by a paradox of technological acceleration and cultural change. According to Hays' 2026 Labour Market Guide, talent management has ceased to be a purely operational function and has established itself as a strategic business pillar. In a context where 90% of companies report difficulties in finding qualified professionals, organisations have realised that it is essential to manage skills holistically.

The speed at which technology is evolving outstrips the ability of educational and corporate systems to generate new skills. Deloitte, in its 2026 Global Human Capital Trends report, warns that we are at a point of "tension and inflection points" where organisations must choose between pure efficiency or the human advantage. Those companies that merely optimise AI to cut costs may incur a "cultural debt", losing the trust of their teams and stifling innovation in the long term.



The impact of artificial intelligence is a driver of real productivity. Over 52% of organisations are already actively promoting the use of AI for tasks ranging from workforce planning to performance data analysis.

On the other hand, the market is experiencing what Gartner calls '*workslop*': an abundance of low-quality, hastily produced work resulting from the indiscriminate use of AI without critical oversight. In this scenario, critical thinking, curiosity and creativity have become the most sought-after skills, supplanting mere technical execution. Under this paradigm, what, then, are the profiles and skills that the world of sport will demand most in the future at this technological turning point?

Adaptability and purpose

For executives such as Pilar Llácer, an HR expert, at the present time, when stability is waning and everything is changing rapidly, it is key to possess the set of knowledge and skills that facilitate a strong ability to adapt. This ability can be relevant in various areas, such as a change of role or a new working methodology.

Pilar also notes that the new generations entering the labour market are particularly keen to seek out companies with which they share a common purpose and organisational culture, placing increasing value on flexibility.

Sport, with its intrinsic emotional and passionate nature, has a unique competitive advantage here when competing for talent with other industries.

New roles in the sports industry and 'hybrid talent'

The digitalisation of sports organisations and the incorporation of AI have driven the emergence of and need for tech roles with different skills. For example, in sports roles, just over a decade ago it was practically enough to understand the game; today, it is also necessary to understand the data generated by the game.

In this context, "hybrid talent" has become particularly important: professionals capable of acting as a bridge between business, sport and technology.

Identifying Emerging Roles

Clubs are evolving into data-centric ecosystems, which has driven high demand for specialised roles. Below is an overview of how certain specific roles and functions within sports organisations are changing:

TABLE
The Evolution of Roles in Sports Organizations

ROLE TYPE	TRADITIONAL PROFILE	CURRENT AND FUTURE PROFILE
Scouting	Scout relying on instinct and personal contacts.	Scouting analyst relying on big data and automated video analysis using AI tools. Comparison of multiple player parameters.
Physical conditioning and injury prevention	Based on stopwatch readings and experience.	A data analyst who combines different data sources, such as GPS, workload analysis, rest, nutrition, and more.
Marketing	Mass campaigns and static sponsorships.	Specialist in CRM and fan engagement with personalisation through generative AI.
Stadium Management	Physical security and ticket sales.	Smart Stadium management, new experiences and risks such as cybersecurity, arising from the sector's digitalisation.

The biggest challenge for sports organisations is finding data experts who understand the dynamics of sport. The cultural friction between traditional technical areas and new technological roles is one of the main obstacles.

As Eduardo Martín De Orduña, an expert at Hays, points out, there is a clash of paces, as technology requires longer and more methodical implementation cycles, while sport demands immediate results every weekend. Unifying these two visions requires leadership and a clearly defined management culture that can bring coherence to the transformation.

The talent strategy at LALIGA

Below, we analyse the case study on sports and technology talent management at LALIGA, a sports organisation that is a pioneer in innovation and technology, competing in the global entertainment market for user attention.

The People Management division, headed by José Morejón, has a talent department led by Paula Guerrero, from which a talent strategy has been implemented that enables the organisation to compete with the major tech companies.

Attraction and retention strategy

To attract digital talent in a market where major tech firms also offer highly competitive terms, LALIGA is committed to a distinctive value proposition that combines two key elements: a sense of purpose and belonging to a vibrant community, and the opportunity to work on high-impact projects linked to innovation, data and artificial intelligence within a global industry undergoing rapid transformation. It is this combination that enables LALIGA to compete with leading tech companies, offering professionals a passionate environment and the chance to develop critical future-oriented skills and lead initiatives that are redefining the sector.

To retain this talent, LALIGA has developed a professional development model based on three pillars: a culture of continuous *feedback* with regular and constructive conversations, an active role for *managers* in the growth of their teams, and internal growth and mobility plans that allow people to progress within the organisation. This model is supported by specific initiatives and tools that enable it, but its true value lies in the cultural and organisational approach that underpins it.

Continuous Learning: Upskilling, Reskilling and AI

In response to the sector's digital transformation, LALIGA has established an *upskilling* and *reskilling* strategy to evolve towards a hybrid talent structure.

Training programmes are identified based on criteria of operational efficiency and return on value. From this process, it was concluded that the use of AI could have a significant positive impact on the organisation and, consequently, the AI adoption programme was launched—an initiative that empowers employees to adopt Artificial Intelligence tools, enabling them to optimise their performance.

To date, the programme has reached a massive scale: 100% of the organisation's workforce has been trained, integrating AI as a fundamental pillar of the corporate culture.

Paula Guerrero emphasises that global *benchmarking* can be strategic for adopting best practices and successful models that work in other industries or markets. Along the same lines, she highlights the importance of identifying a network of internal ambassadors who promote and accelerate the implementation of use cases and best practices, generating shared knowledge and driving transformation from within the organisation.

Technology in recruitment

Technology also plays an increasingly important role within Human Resources itself: amongst other things, it enables recruitment processes to be scaled up without compromising quality or increasing unconscious bias. AI-powered tools are revolutionising the way potential is identified.

In the market, the most advanced organisations are incorporating systems to carry out automatic CV screening based on skills affinity, achieving 87% accuracy compared to manual review. Some platforms go further and incorporate features such as AI-analysed video interviews, which allow for the assessment of soft skills such as learning ability or problem-solving in high-pressure environments. In the case of LALIGA, steps are being taken towards process efficiency and scalability, while currently maintaining an approach where assessment remains primarily human-led.

According to Paula Guerrero, the progressive use of technology and automation frees human recruiters from repetitive tasks so they can focus on qualitative assessment and cultural fit, elements that remain irreplaceable.

Conclusions: talent is the driving force behind innovation

Human capital is the engine of innovation, the only factor capable of giving data meaning and purpose. The professionalisation of clubs and the strategic evolution of LALIGA demonstrate that, in the era of generative AI, the differential value does not lie in the technology itself, but in knowing how to combine it with talent, creativity and judgement. Artificial intelligence amplifies the capabilities of professionals; it is they who provide direction and context.

In an industry where passion and data converge, it is this combination of human talent and technological innovation that sets the most advanced organisations apart.

In the next section, we will look at the views of the leaders, experts and professionals who have contributed to the creation of this *innovation White Paper*.



05.

**Voices from the
ecosystem**

The Value of Collaboration

Innovation in LALIGA is the result of a combined and systemic effort between business, technology and specialised development.

This *White Paper* has been designed as a strategic bridge to highlight the state of the art in football innovation, serving as a link between the general technology market and its real-world application within the sporting ecosystem.

To achieve the analytical depth of this document, we have drawn on the expertise of 22 leaders and thought leaders.

Directory of Experts

LALIGA executives: architects of internal transformation

Prasanna Kumar

Director of Technology, Innovation and AI.

“Control over data and the provenance of models is key to ensuring strategic independence and information security.”

Ana Rosa Victoria

Head of Innovation.

“Innovation only makes sense if it generates an impact. That is why, at LALIGA, we work within an ecosystem model that connects strategy, technology and operations, bringing together clubs, strategic *partners*, *start-ups* and in-house talent to transform real challenges into useful, scalable solutions aligned with the future of professional football.”

Javier Gil

Head of AI Development and Implementation.

“We are living through a constant transformation that is redefining our daily lives almost without us realising it. In this context, LALIGA has a strategic duty to guide clubs and the community towards critical and responsible technology adoption.”

Alfredo Bermejo

Director of Digital Strategy.

- “ In LALIGA's Digital Strategy department, we view AI and technology as a strategic layer of innovation that allows us to scale content creation, personalise the fan experience and connect data, technology and *storytelling* in real time. The key is to build a smarter, more relevant and adaptable digital ecosystem for a global audience.

”

Bernardo Hermoso

Director de Growth & Data Intelligence.

- “ Predictive intelligence and the use of intelligent agents allow us to anticipate needs, personalise experiences and transform passive content consumption into a more active, relevant and emotional relationship with fans.

”

José Morejón

Director of People Management.

- “ We have the opportunity to redesign and simplify end-to-end HR processes by structurally incorporating AI. Processes must combine automation with human intervention at those points that require judgement, context and empathy.

”

Paula Guerrero

Head of Talent and Culture.

- “ Talent is the real driving force, the only factor capable of giving meaning and purpose to data in the era of generative AI.

”

Paula Gonzalez

Head of Ambassadors and Social Opinion Leaders.

“ The success of modern communication lies in the ability to generate interactive and personalised content that breaks through digital saturation. ”

Roberto López del Campo

Football Intelligence and Performance Coordinator and PhD in sports science and physical activity.

“ All clubs have access to the same data; the difference lies in how each staff interprets it and applies it on the pitch. ”

Fabio Nevado Garrosa

Football Technical Analyst at Football Intelligence and PhD in Sports Science and Physical Activity.

“ The use of accurate and reliable data allows for better-informed decision-making ”

Ecosystem Leaders: Global Perspective and Strategic *Partners*

Gonzalo Zarza

Chief Data Officer at Sportian, playing a key role in the global marketing of technology products to other leagues and federations.

“ In the medium term, immersive technology such as mixed reality can enhance the fan experience in the stadium. For widespread adoption to occur, the content format will need to be adapted and the cost of the technology reduced. ”

Ben Mirvis

EMEA Regional Lead at WSC Sports: LALIGA's technology partner for content generation.

- “ AI enables the scaling of hyper-personalised content creation, generating automated clips for every platform and format. The strength of this partnership lies in connecting LALIGA's past, present and future: live moments, the historical archive and the next generation of fans, all through personalised content experiences at scale. ”

Lalo García

CEO of HubIn, a sports innovation consultancy.

- “ The digital twin, or AMS (Athlete Management System), will be key to optimising sporting performance; by combining different data sources, it enables injuries to be prevented before they occur in real life and improves performance. ”

Aitor Jiménez

Chief Innovation, Technology and New Business Officer, Baskonia-Alavés Group. Leader of *The Faktory*, a leading model of an open ecosystem between sport and tech *start-ups*.

- “ Artificial intelligence should not be understood merely as a technological tool, but as a cultural shift that permeates the entire organisational structure. Its true value emerges when it transforms the way we think, make decisions and work across all areas of the organisation. ”

Alejandro Ugarrio

Director of Atleti Lab and Deputy Director of Digital Development. Alejandro works with the club's various departments to add value through innovation.

- “ Innovation allows us to stay fit as an organisation in the face of present and future challenges. ”

Silvia Velasco

CEO of Be a Lion, a subsidiary of Mediaset España, and responsible for the conception and development of Alex, LALIGA's *virtual influencer*, as well as other virtual profiles.

- “ For a *virtual influencer* to work, they need to have a purpose and a story behind them. We professionals who develop this type of project face a major challenge: if we want these characters to connect with the audience, we must steer clear of forced perfection and opt for a more human, less perfect reality. That is where credibility is truly built and where the real challenge lies. ”

Eduardo Martín de Orduña

Account management and *headhunting* at Hays Executive, the division specialising in the search and selection of senior management roles. He brings a perspective on the global labour market and the identification of emerging technical profiles.

- “ There is a clash of rhythms between technology and sport that requires strong leadership to integrate both visions. ”

Pilar Llacer

HR expert, specialising in ethics and artificial intelligence, and in adaptability within volatile labour markets.

- “ With technological advances, the most sought-after profiles will be those who are creative, strategic and possess critical thinking skills. Furthermore, rapid changes mean that the skills enabling a quick shift in role or methodology are a significant competitive advantage. ”

Dr. Machar Reid

Director of Innovation at the *Australian Open*. An international authority on corporate *venture capital* models and the acceleration of disruptive *start-ups*.

- “ The main challenge for most *stakeholders* is to generate content that attracts and retains the new generation of *fans*. ”

Justin Driscoll

Principal at LEAD (a global investment firm specialising in *SportsTech*), he provides a strategic perspective on investment in *SportsTech* and key future trends.

- “ Sports clubs generate a level of brand loyalty that few industries can match, but historically they have lacked the infrastructure to capitalise on it. With valuations on the rise and growing interest in club ownership, building a direct and solid relationship with the fan is now an unavoidable priority. The key to creating value in the future will lie in owning your *fans'* data and knowing how to activate it. ”

Federico Smanio

CEO at Wylab, a pioneering *SportsTech* accelerator and investor in Italy. Expert in venture capital, innovation and sport.

- “ Future profitability depends on deciphering the relationship with the fan through data and personalisation. The success of this transition requires moving beyond an organisational culture focused solely on short-term sporting results to integrate technologies such as AI into the overall business strategy. ”

Sepi Motamedi

Head of Sports Marketing at NVIDIA. Expert insight into technology and artificial intelligence, particularly in the sports sector.

- “ One of the most significant changes we are witnessing is the evolution of AI, which has moved from being a set of isolated tools to becoming fully-fledged agent-based systems capable of collaborating, invoking *APIs* and automating end-to-end workflows. LALIGA is leading this transition as the first sports organisation to adopt a large-scale agent-based operational model to transform its performance and efficiency. ”

Mapping of Reports and market references

In addition to input from ecosystem leaders, this document has been compiled through the *research* and analysis of more than 50 *reports* from leading consultancies and benchmark firms across the various areas of study.

Some of the reference documents analysed include reports from firms such as McKinsey, Deloitte, Gartner, Globant, LinkedIn, Accenture, Nielsen and Stanford, amongst others.



06.

Trends and
benchmarking
in technological
innovation

This section analyses the convergence of macro and micro technological trends that are redefining sport.

Furthermore, it compares the major competitions through a comparative analysis of what sets LALIGA apart from the leading European football competitions in this field.

Macro trends: artificial intelligence and quantum computing

Key AI trends

The global AI landscape in 2025 and 2026 shows that we are at a point of enterprise-scale adoption, a scenario in which technology has a significant impact on the economy and social behaviour. At the organisational level, 90% use AI regularly in at least one business function.

Within this category, five key trends stand out that we are also beginning to see in the world of sport: agentic AI, *vibe coding*, sovereign AI, Physical AI and voice as an interface.

One of the most disruptive trends is the transition from traditional generative or assistant AI towards agentic AI. Unlike traditional models that simply respond to prompts, agents are systems based on foundational models capable of reasoning, planning and executing multiple steps in a workflow autonomously. Gartner projects that by the end of 2026, 40% of enterprise applications such as ERPs or CRMs will have specific AI agents natively integrated. A major challenge in this category will be coexisting with these agents as work ‘partners’.

The transition towards agent-based AI finds one of its most disruptive expressions in *vibe coding*. In this new ecosystem, natural language becomes the definitive programming language. The user defines the logic and the objective, and the AI agent takes care of the architecture, deployment and real-time debugging. 83% of companies consider data sovereignty and regional computing to be moderately or very important for their strategic planning. The concept of “sovereign AI” is defined as the ability of a nation or organisation to design, train and deploy AI under its own laws, on locally controlled infrastructure and using internally governed data. This will be another key trend.

Physical AI is another key trend: it represents the convergence of digital intelligence and the physical world, integrating into hardware such as sensors, robotics and control systems.

Finally, at the interface level, with the deployment of native multimodal models, it is expected that 30% of interactions with technology in the home and office will be exclusively voice-based by the end of 2026, optimising accessibility and response speed by 40%.

Quantum computing

Quantum computing represents the new paradigm for solving complex problems that are computationally very difficult or impossible to handle for classical architecture. In 2025–2026, we have entered the era of ‘quantum utility’: the current focus is on the application of quantum algorithms to optimisation problems, materials simulation and cryptography.

Some use cases that this technology may enable, due to the convergence of AI and quantum computing, include new physical recovery protocols and personalised nutrition, by allowing the simulation of molecular interactions at atomic precision. Combinatorial optimisation can also be used to solve highly complex logistical problems.

The deployment of this technology will lead to the creation of quantum-resistant security standards in critical infrastructure and organisations handling high-value sensitive data.

According to IDC projections, global spending on quantum computing solutions is expected to reach \$7.6 billion by 2027, with a compound annual growth rate (CAGR) of 48.1%. This momentum is driven by the democratisation of access via the cloud (*Quantum as a Service*), enabling organisations to harness this power without needing to own the physical hardware.

Micro trends: the sports sector

Concentration of capital: *Fan Engagement*

The sports technology ecosystem has seen a significant shift in its investment priorities. According to experts such as Federico Smanio, CEO of Wylab, while sporting performance was the initial driver of innovation, capital has now shifted towards the fan experience.

According to 2025 data, over 70% of total capital was directed towards technologies focused on improving the user experience. Examples include gamification systems and loyalty solutions that enable leagues and clubs to better understand their audience.

This paradigm shift is driven by the need to monetise fan data and offer personalised content. In a market where most revenue comes from traditional TV rights, the ability to sell personalised products and services directly to a global fan base of millions of people represents the new frontier of revenue.

AI can facilitate hyper-personalised fan experiences, but commercial intermediaries have historically stood in the way. As Justin Driscoll, Principal at LEAD, points out: “The problem is that there is fragmentation where ticketing, merchandising and sponsorship operate in separate systems, without a shared view of the fan. A single fan can appear as four different people across four different platforms.”

Clubs and competitions investing in and accelerating tech start-ups

The digital maturation of the sports industry has given way to a strategy of direct investment or acceleration, where clubs and leagues act as catalysts for innovation.

Leading organisations, such as FC Barcelona, through its *Barça Innovation Hub* (BIHUB), and the Baskonia-Alavés Group, have moved beyond the role of mere consumers to become strategic partners and shareholders in tech start-ups. This model enables clubs to provide strategic assets to start-ups, such as access to fans, testing facilities and brand reach, thereby accelerating growth cycles. By having ‘*skin in the game*’ or a real stake in the capital, these organisations ensure they remain at the forefront of technology. Furthermore, they stand to gain a direct financial return through the appreciation of their portfolio companies.

This partnership translates into support covering *business development*, *fundraising* and product refinement through direct *feedback* in high-competition environments, amongst other areas.

In terms of competitions, the success story of the Australian Open (AO), led by Machar Reid, stands out, positioning itself as a global *hub* for innovation in sport and entertainment. Its strategy is rolled out through an integrated *pipeline* combining *AO Labs* for in-house ideas, *AO Start-ups* for piloting and validating external products, and *AO Ventures*, its CVC (Corporate Venture Capital) arm aimed at scaling up start-ups with high synergistic impact for the competition. According to Machar, one success story is Bolt6: after years of support in refining and testing its refereeing technology and data innovation, the company has become the tournament's main technology partner and has scaled its solution to other sectors such as golf, demonstrating how an innovation validated within the AO ecosystem can achieve international scale.

For its part, LALIGA has opted for a progressive approach by creating *innovation challenges* such as *MEET LALIGA*, a programme to promote *SportsTech start-ups*, amongst other strategic initiatives in recent years. These programmes act as a high-quality filter to familiarise the organisation with emerging technologies and establish lasting relationships with the entrepreneurial ecosystem. This ability to 'open the stadium' to external innovation allows the competition to identify disruptive solutions which, in strategic cases, can be integrated directly into its ecosystem, ensuring that the organisation remains at the technological forefront.

Smart Stadiums: From passive venues to cognitive ecosystems

The evolution of sports infrastructure is giving rise to the *Smart Stadium* concept, an intelligent ecosystem designed to maximise interaction and operational efficiency. This trend is based on the integration of technological layers that eliminate physical friction for spectators while generating a constant flow of real-time data.

Javier Gil highlights that *computer vision* technology, when properly implemented in the stadium, can enhance security through risk detection. The architecture of the modern stadium, utilising technologies such as biometrics and facial recognition, enables a fully *contactless* experience, where the fan's identity replaces the physical ticket or QR code, allowing for smooth and automated movement.

A disruptive benchmark in this trend is the Los Angeles Clippers' Intuit Dome, whose technological implementation, led by Globant, redefines the industry standard, achieving 75% adoption of the technology by fans during matches. At this venue, *fans* can enter, move around and make purchases using *grab-and-go* systems similar to Amazon Go, where the transaction takes place invisibly as they leave the venue. In addition, screens identify users via biometrics and provide personalised, automated directions to their seats, amongst other advanced wayfinding features.

In terms of gamification, the stadium introduces interactivity directly from the seat via integrated remote controls. With these, the crowd can interact with the main screens and take part in challenges that measure their level of support in real time. Among other initiatives, points scored are gamified by creating pyrotechnic effects, bringing the kind of dynamic content that today's *fans* demand and which connects with new trends in sports consumption, as we shall see in the next section.

These strategies, as well as providing data, enhancing the experience and improving financial results, aim to transform the fan from a passive spectator into an active participant who directly influences the 'home advantage'. Depending on how enthusiastic you are in 'cheering on the team', you receive rewards such as an upgraded seat.

This factor is decisive in professional competition, as in leagues such as the NBA it is estimated that the pressure and active participation of the crowd can contribute between 2 and 3 points to the final score.

Gen Z demands dynamic and interactive content

The sports industry is facing a paradigm shift in content consumption and user attention, driven by a Generation Z that rejects traditional passivity. This micro-trend is based on breaking away from one-way communication: young fans want to interact with the event, participate in the experience and make it as dynamic as possible. Content is consumed across different platforms, formats and at different times, such as post-match.

At market level, sport is currently competing for user attention with entertainment giants such as Netflix and TikTok.

User interests are set to transform sporting events into a source of hyper-personalised micro-experiences brimming with dopamine and immediacy. To meet this demand, generative AI technology and 3D vision models are enabling the creation of layers of added value that were previously impossible.

Companies such as LALIGA and Sportian are working on mixed reality solutions that allow users, via devices such as VR headsets, to overlay layers of tactical data and advanced statistics while watching the match. LALIGA has also been the first to implement, in a project with EA SPORTS, 3D replays of match plays as if they were a video game.

Digital twin: the future of performance

The cutting edge of sports performance is taking shape around the concept of the player's 'digital twin'—a virtual replica powered by a dynamic data ecosystem. This trend is based on the creation of *Data Lake* architectures capable of integrating and processing the maximum number of biometric and tactical inputs, automating the intake of information to cross-reference it systematically. The key to this evolution lies in transforming raw data into a highly intuitive visual layer that allows *Sport Science* departments and coaching staff to monitor the athlete's four critical dimensions in real time: physical condition, training, competition and rest periods.

To bring this model to life, heterogeneous data sources are orchestrated, ranging from GPS sensors and high-precision jumping equipment to automated match data, such as that provided by LALIGA's Football Intelligence via Sportian Performance, while also integrating talent scouting tools such as BeSoccer or federation databases. This infrastructure is complemented by constant monitoring of sleep and nutrition via state-of-the-art smart wearables, enabling not only the maximisation of current performance but also preventive action against the risk of injury. A key differentiator of this technology is its predictive capability, which is particularly critical in youth football for projecting a youth player's potential development based on historical patterns and biometric comparisons.

This approach enables the coaching staff to make decisions within a framework of greater certainty, complementing intuition with objective information in the management of training loads and talent. This methodology has already moved beyond the theoretical phase and is being successfully applied by leading consultancy firms in the sector such as Hubln, under the direction of its CEO Lalo García. The implementation of these Digital Twin models at top-tier clubs such as RC Celta de Vigo demonstrates that the extreme personalisation of training and the protection of sporting assets are now a tangible reality that defines the competitive edge.



Differential analysis: LALIGA in Europe

The five major European leagues have stepped up their technological commitment in recent years, albeit with different strategies and levels of development. The following section analyses the growth of technology and AI in the five major leagues, as well as identifying the distinguishing features of LALIGA compared to the Premier League, Bundesliga, Serie A and Ligue 1, thereby answering the question: what differentiates LALIGA technologically?

Technology ownership and outsourcing

Most of the major leagues have opted to outsource their technological infrastructure through various partnerships with leading companies in the sector. In July 2025, the Premier League formalised a five-year strategic partnership with Microsoft to be its official cloud and AI provider. The *partnership* is structured around four key areas: *fan engagement*, match analysis, cloud transformation and organisational productivity. The partnership is a major undertaking aimed at personalising experiences for millions of *fans* using AI, although development relies on external partners.

The Bundesliga is managed by the DFL (Deutsche Fußball Liga), the body that manages and markets the rights to the top two divisions of German professional football. The DFL has been working with Amazon Web Services (AWS) since 2020, integrating *machine learning*, analytics and AI into media and operations. In 2024, AWS expanded this agreement to also become the German body's official generative AI provider. The DFL has its own data subsidiary, Sportec Solutions, established as a joint venture between the DFL and Deltatre in 2016. Sportec Solutions supplies products and services to sports associations, leagues, clubs and international media, specialising in advanced methods of collecting, analysing and distributing live match data. In recent years, it has expanded its portfolio of international clients, including the US-based MLS.

Serie A's strategy is structured around ad hoc agreements with external providers: from the alliance with Iliad as an innovation *partner* (the brand sponsoring VAR and goal-line technology from 2024–25), to an active collaboration with Sportian, the LALIGA subsidiary, for the management of its digital piracy. Thanks to Sportian's Piracy Guard services, Serie A has detected and blocked more than 4,500 piracy attacks per matchday during the 2024–25 season. The Italian league has also explored blockchain technology with Socios.com and introduced innovative broadcasting technologies, such as the referee-mounted camera (RefCam), which has also been adopted by the Bundesliga and the Premier League.

Ligue 1 is managed by the LFP (Ligue de Football Professionnel), the governing body of professional football in France, which oversees the country's top two divisions. The LFP has recently signed several agreements with external AI providers: a five-year deal with WSC Sports for the automated creation of real-time content, and a partnership with CAMB.AI for the translation, voice emulation and dubbing of content into multiple languages. These are significant moves that follow a pattern of adopting external solutions.

LALIGA, in addition to having pioneered long-standing agreements with several of the aforementioned companies (Microsoft, WSC...), has simultaneously established its own technology subsidiary through Sportian, a joint venture with Globant. Unlike most leagues, which rely on third-party technology, LALIGA has developed numerous *in-house* solutions and markets them to other competitions and sports, making it the competition with the most cross-cutting focus, impacting sports beyond football. Sportian's portfolio is one of the most extensive in the sector, including anti-piracy solutions, competition management, data visualisation and *engagement* platforms, and counts among its clients Serie A itself, the Saudi Pro League, MotoGP (Dorna Sports), the Belgian Pro League, Major League Rugby and Wimbledon.

Data Management and Democratisation

In competitions such as the Premier League, data management is primarily a matter for the clubs themselves, with few shared solutions. Each franchise has developed its own strategy: clubs such as Liverpool, Manchester City and Arsenal have built internal data departments staffed by scientists with high-level academic backgrounds, while approximately 75% of Premier League clubs had dedicated analytics teams by 2025, albeit with significant differences in capability between those with greater resources and those with more modest means.

In the case of Serie A and Ligue 1, both competitions manage data primarily through external providers focused on broadcasting and *fan engagement*, leaving investment in sports analytics in the hands of each individual club.

The Bundesliga is, alongside LALIGA, the league that has systematised its data management most extensively. Through Sportec Solutions and its integration with AWS, it captures all player movements using more than 12 high-precision cameras, recording positions 25 times per second, and generates more than 3.5 million data points per match. This model is primarily geared towards media production and the fan experience.

LALIGA is the only competition with a Football Intelligence department that trains clubs, conducts research and analysis, manages its own data, and distributes it centrally to its 42 clubs, both in LALIGA EA SPORTS and LALIGA HYPERMOTION. Through the Football Intelligence department, *pre- and post-match* technical and tactical reports are provided, ensuring that all teams, regardless of their budget, have access to the same advanced metrics: goal probabilities, heat maps, tactical layouts and performance analysis. This democratisation of data has contributed to Spanish clubs being continental leaders throughout the 21st century, having won 37 UEFA trophies during this period.

Scientific research

LALIGA has also become the leading ecosystem in European football in terms of scientific research. This was confirmed in 2026 by an independent scientific review published in the journal *Cuadernos de Psicología del Deporte*, which analyses how football is currently researched in the five major European leagues (LALIGA, the Premier League, the Bundesliga, Serie A and Ligue 1).

The study reviewed 57 international scientific research papers focusing on the use of *big data*, *player tracking* and tactical analysis, identifying a particularly prominent presence of LALIGA in some of the most advanced areas of research in modern football. Among its main conclusions, the publication notes that a significant proportion of the most complex and longitudinal studies currently being carried out in professional football use data associated with LALIGA, positioning the competition as an international benchmark in applied research and the generation of scientific knowledge from elite-level data.

Generative artificial intelligence: from experiment to structure

All the major leagues have incorporated some form of generative AI tool over the last two years, primarily in the areas of content and broadcasting. The Bundesliga has integrated AWS as its official *GenAI* provider to automate the production of content and real-time commentary for international audiences.

The Premier League has launched initiatives aimed at the end consumer, such as *Premier League Companion*, a conversational assistant integrated into its official app that allows fans to check historical statistics, results and player data using natural language.

Serie A and Ligue 1 have also taken steps in this direction, incorporating AI tools primarily for the creation and distribution of content through external providers.

LALIGA, for its part, has implemented structural changes, launching an organisation-wide AI transformation plan and creating a dedicated department for AI development and implementation within the league, conceived as an internal strategic consultancy. This unit works across three areas: trend analysis and innovation, operational transformation and process optimisation. The focus is on the organisation's internal operations, automating complex workflows and optimising financial, legal and human resources processes.

One of the most representative concrete implementations is an AI agent integrated into the organisation's usual communication channels, available at all times. The system replaces the traditional model of top-down innovation with an on-demand model, where employees decide when and how to interact to request a technological solution or identify improvements in their day-to-day work. The agent acts as an intelligent companion which, through strategic questions, transforms an initial observation into a structured value proposition, eliminating bureaucratic friction and fostering evolution in the way employees work.

Once the proposal takes shape, the agent runs a scoring system that automatically assesses various dimensions of impact, generating a dynamic ranking that links the needs identified at the operational level with the strategic priorities of senior management. The projects with the greatest potential then begin a cycle ranging from proof of concept to final deployment, with the functional areas taking on the role of owners and integrating the innovation into their daily operations.

Digital communication and new *engagement* formats: *virtual influencers*

The major European leagues have stepped up their commitment to digital formats aimed at young audiences, albeit with different approaches. The Premier League has launched personalised experiences based on historical data and real-time content. The Bundesliga has incorporated advanced metrics and automated content in multiple languages into its broadcasts. Ligue 1 is working on the adaptation and distribution of content using AI. LALIGA has been active in all these areas in recent years. In all cases, the strategy centres on digital platforms and personalisation tools, within conventional communication formats.

In October 2024, LALIGA broke new ground by introducing Alex, the first *virtual influencer* created and trained entirely using generative AI for a professional football league. This project symbolised the evolution of sports communication towards more immersive formats, aligned with the consumption trends of younger generations, particularly at an international level.

Virtual influencers are scaling up global content creation through real-time language adaptation. Their versatility allows them to interact on social platforms and lead *phygital* convergence, virtually attending physical events, presentations and sports broadcasts, becoming an omnipresent asset for the audience.

From a technical perspective, the use of digital twins and virtual influencers enables sports organisations to validate markets quickly and drastically reduce content production costs, as constant physical presence is not required to generate promotional or communication materials.



07.

Conclusions and
the future of the
sports industry

Conclusions

The analysis in this document reveals that the sports industry is undergoing a structural transformation driven by technology and data. The convergence of these two disciplines and the development of hybrid talent have enabled LALIGA to transcend the traditional competition model.

The industry has moved away from a paradigm in which, in 2013, LALIGA operated as an association of indebted clubs, fragmented broadcasting rights, and no defined technology strategy. By 2026, it is an organisation that produces and exports technology to other leagues and sports, has 100% of its workforce trained in AI, manages over 275 million followers on social media, and generates its own technological solutions.

This transformation has required financial control, internationalisation, a culture of innovation and, above all, a sustained conviction on the part of the management that technology is a means of solving real problems faced by clubs, fans and the organisation itself.

This evolution also responds to a shift in the sociology of consumption, where technology acts as the connective tissue that democratises access to elite technical information and personalises the experience for new generations.

The model: from consumers to technology architects

LALIGA has established itself as a *tech powerhouse* and a global technological benchmark. Through its strategy of technological sovereignty, the organisation has moved beyond the role of consumer to become an architect: it develops, refines and exports technology, fostering the growth of the global sports ecosystem.

The creation of Sportian, in partnership with Globant, is the clearest testament to this transition. With a portfolio spanning anti-piracy, competition management, sports performance and *engagement*, Sportian already serves competitions such as Serie A, MotoGP, Major League Rugby and Wimbledon, making LALIGA a cross-cutting technological player in global sport.

This position gives the competition a unique role: that of an *operating system* upon which other leagues, federations and sports build their digital transformation.

Strategic commitment to artificial intelligence and training

LALIGA has transformed artificial intelligence into a driver of internal efficiency and technological sovereignty, pioneering the development of an in-house AI department and ensuring that the technology acts as a cross-cutting layer across all its processes, from financial management to audiovisual operations. This approach allows models to be designed and trained under local control and within its own legal frameworks, protecting privacy and ensuring long-term resilience in the face of changes or tensions in the global market.

At the heart of this strategy lies talent development. LALIGA leads the way in training with a programme that has reached 100% of its workforce, transforming the use of AI tools from an experimental exercise into a daily practice. The results are tangible: a saving of up to four hours a week on reactive tasks, allowing staff to focus on higher-value creative and strategic roles. This evolution towards an agentic organisation is based on the principle that technology must reduce workload and burnout, while always ensuring that the professional remains the supervisor and ultimately responsible for every result generated by the machine.

Through its “10 Commandments of AI”, created by the AI department, the organisation reinforces a code of ethics in which human contact and project management remain outside the scope of full automation. This approach ensures that all clubs, regardless of their budget, have the same analytical capabilities to compete on a level playing field. Overall, LALIGA has mapped out a roadmap where technological sovereignty and the development of in-house skills are the fundamental pillars for maintaining leadership in the sports industry over the next decade.

The 5 pillars of the coming decade

The analysis of macro trends, the insights of the 22 leaders who have contributed to this document, and LALIGA’s track record enable us to identify five key areas that will define the industry in the coming years:

The first is the democratisation of data. The model of providing the same quality and quantity of data to all 42 clubs, regardless of their budget, ensures that competitiveness depends on applied intelligence, not just financial resources. Ongoing innovations, such as the ‘chip-enabled ball’, will continue to push that boundary.

The second is agent-driven transformation and operational efficiency. The transition towards an organisation where teams of AI agents perform complex tasks under human supervision—already underway at LALIGA through the AI Pods—will redefine internal productivity across the entire industry. Organisations that fail to scale this capability will lose operational and structural competitiveness.

The third is hyper-personalisation and the *Fandom Flywheel*. Every fan interaction generates data that AI converts into more relevant content, which generates more interaction, which generates more data. This cycle, when executed well, transforms passive consumption into active loyalty. Alex, the first virtual influencer in a football league, is one of the most visible expressions of this strategy: a proprietary, scalable, multilingual and permanent communication asset, which LALIGA controls entirely and which is already making an impact in markets such as Asia and the Arab world.

The fourth is technological sovereignty and asset protection. Control over data, the development of proprietary tools and independence from external suppliers are necessary conditions for long-term financial sustainability. In an environment of geopolitical tensions and rapid regulatory changes, technological sovereignty is a structural competitive advantage.

The fifth is humanistic and ethical innovation. Talent remains the real driving force: the only factor capable of giving data meaning and purpose. LALIGA's training programme has reached 100% of its workforce and reduced reactive work by up to four hours per week per employee. These enhanced new skills, demonstrates that technology and the human factor are not opposing forces, but complementary ones when the organisational culture is well-established.

The commitment moving forward

LALIGA reaffirms its commitment to excellence and cutting-edge innovation. To continue leading, it is imperative to prioritise technology and a culture of cross-functional innovation, driven by senior management.

LALIGA will continue to lead the fight against piracy to protect the value of the competition, investing in smart infrastructure that transforms stadiums into cognitive ecosystems and developing narratives that connect emotionally with fans, regardless of where they are physically located.

This *White Paper* sets out key trends in how the technological foundations of global sport are evolving, from the perspective of an organisation at the heart of innovation.

Exploring the transformation of the global sports ecosystem

LALIGA

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