

# SOME CIVIL ASPECTS OF AI IN SPORT: NEW CHALLENGES

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Artificial intelligence (AI) is increasingly embedded in modern sport, shaping athlete performance analysis, injury prevention, refereeing, talent identification, and fan engagement. While AI-driven systems promise efficiency and competitive advantage, their deployment raises complex legal and ethical challenges, particularly regarding civil liability, data protection, transparency, and fairness. This paper examines the main applications of AI in sport and analyzes their legal implications under European Union law, with a particular focus on the General Data Protection Regulation (GDPR) and the EU Artificial Intelligence Act (AI Act). Special attention is devoted to liability for damage caused by AI errors in sport, including bodily injury, economic loss, and non-material harm. The research yielded results that sport constitutes a high-risk environment for AI use and demonstrated the need for special regulations for liability for damage caused by AI use and a governance framework that integrates legal regulation with ethical principles.

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## 1 Introduction

Artificial intelligence (AI) is quickly entering into sports science and practice, giving researchers and practitioners new ways to optimize performance, to improve rehabilitation, and to prevent injuries, to identify talent and recruit, and to bolster fan engagement and business.

Integrating artificial intelligence into sport represents one of the most significant transformations in sports practice and science. AI systems are now used to analyze performance data, predict injuries, support refereeing decisions, identify athletic talent, personalize fan experiences etc. These technologies increasingly influence not only sporting outcomes but also athletes' health, career prospects, and economic interests.

Sport occupies a unique normative position in society. It combines elements of economic activity, cultural and national identity, and physical integrity, while relying heavily on principles of fairness, equality of opportunity, and public trust. Despite its many beneficial uses, the use of AI in such a sensitive domain raises legal and ethical questions that extend beyond technical efficiency. This paper explores the implications of AI in sport from a legal perspective, focusing on EU law, and pays particular attention to the issue of liability for damage caused by AI-related errors.

The paper is based on analysis of EU and national legislation, regulatory proposals and policy documents, relevant academic literature, and selected practical examples from professional sport.

## 2 Applications of Artificial Intelligence in Sport

Artificial Intelligence is transforming sports in almost every area – from athlete performance and coaching to influence on fans engagement and business operations.<sup>1</sup> There are different ways how AI is being used across the sports industry:

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<sup>1</sup> Ravindran, 2022.

## **2.1 Performance Analysis and Training (Player Development)**

AI-driven performance analysis systems process huge amounts of data collected through GPS trackers, wearables, and video analytics. These systems enable highly individualized training programs and tactical optimization. While they enhance efficiency, they also entail continuous monitoring of athletes, often involving biometric data.<sup>2</sup>

AI helps coaches and athletes make data-driven decisions by analyzing performance metrics. They track heart rate, speed, fatigue, and motion in real time.<sup>3</sup>

AI uses computer vision – video analysis tools identify movement patterns, technique errors, or tactical positioning (e.g., in football or tennis). AI analyzes and predicts injuries by detecting changes in motion or workload.<sup>4</sup>

Examples are tools like Catapult Sports or STATSports that use AI to analyze player load and prevent overtraining.

## **2.2 Injury Prevention and Health Monitoring**

Predictive models identify patterns associated with fatigue, overuse, and injury risks. AI can detect early signs of fatigue or biomechanical stress.<sup>5</sup> It makes motion capture analysis and identifies risky movement patterns, monitors rehab and AI-driven physiotherapy tools adjust exercises in real time. AI creates predictive injury models combining medical, training, and genetic data to forecast risk.

Such systems may significantly reduce injury rates and prolong athletic careers. However, they operate at the intersection of performance optimization and medical decision-making, triggering heightened legal protection for health-related data.

The best examples are NBA teams, which use AI to monitor player workload and minimize injury rates.

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<sup>2</sup> Hamill et al., 2021; Bennett et al., 2019; Stetter et al., 2020.

<sup>3</sup> Pickering & Kiely, 2019; Guelmami et al., 2023.

<sup>4</sup> Kellmann et al., 2018; Garcia-Aliaga et al., 2023.

<sup>5</sup> Adam, 2024.

### 2.3 Talent Identification and Recruitment

AI-based scouting systems assess athletes' potential by analyzing historical and real-time data. While efficient, these systems may reinforce existing biases, exclude atypical development paths, and indirectly discriminate against certain groups of athletes. Algorithms predict player potential based on performance data rather than reputation alone. AI uses video scouting: computer vision systems automatically analyze match footage to rate skills. AI also makes market value predictions: machine-learning estimates transfer values and contract risks.

Example is club Brentford FC in the English Premier League, which uses AI scouting to find undervalued players.

### 2.4 Tactics and Strategy

AI models analyze large amounts of match data to suggest optimal strategies using pattern recognition in order to identify tendencies in opponents' play (e.g., where a basketball player prefers to shoot), makes simulations because AI can run virtual matches to test tactical plans and can therefore provide valuable information to assist coaches in making in-game decisions and substitution recommendations. Born et al. tested the You Only Look Once (YOLO) AI model's ability to identify opposing players' locations in Australian Rules Football, using data from 17 matches in the 2019 AFL season. The model achieved high accuracy (mAP = 0.94; precision = 0.95; recall = 0.97; F1-score = 0.96), with minimal error in player position estimates compared to GPS data, indicating YOLO's utility for tracking opponents and enhancing tactical preparation.<sup>6</sup>

There are many examples, especially in football, where clubs like Liverpool FC and Manchester City use AI-driven analytics for tactical planning.

### 2.5 AI-assisted Refereeing and Officiating

Technologies such as goal-line technology and video-assisted refereeing aim to improve accuracy and fairness in competitions, particularly in sports governed by organizations such as FIFA. AI assists referees and ensures fairness in competition

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<sup>6</sup> Born et al., 2024; Zhou et al., 2025.

with VAR & Goal-Line Technology (computer vision confirms key decisions), automated Line Calls (often used in tennis - e.g., Hawk-Eye system), Fairness Checks (detects match-fixing patterns).

Despite their benefits, these systems raise concerns regarding algorithmic transparency, accountability, and the erosion of human discretion.

## **2.6 Fan Engagement and Experience**

AI personalizes how fans interact with their favorite teams. Chatbots and Virtual Assistants handle ticketing, news, and fan queries. AI recommends highlights or stats tailored to individual fans (personalized content). Virtual Reality (VR) and Augmented Reality (AR) are also used, and they enhance viewing experiences with real-time stats overlays.

For example, the NBA app uses AI to create custom highlight reels for each user.

## **2.7 Business and Operations**

AI improves stadium management, ticket sales, and sponsorship. It adjusts ticket prices based on demand and opponent quality (dynamic pricing), makes security and crowd analytics: AI-driven cameras detect unusual behavior. In sponsorship it measures brand exposure on broadcasts.

## **3 Legal Framework Governing AI in Sport**

The law often struggles to keep up with technological progress, which is not always an easy task.<sup>7</sup> With the development of artificial intelligence systems, there has been a need to try to ensure legal protection in the most effective possible way.<sup>8</sup>

An artificial intelligence system is not just a 'robot' that a person controls with various remote controls. Although the AI system is given initial algorithms, going forward it does not act in a static way. Instead, it evolves because it is intelligent, learns and decides on its own. At some point, it can start making wrong decisions,

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<sup>7</sup> Cwik et al., 2024.

<sup>8</sup> Najjar, 2023.

possibly even violating fundamental human rights, which in turn can cause liability and resulting damage. For example, it can put someone in a discriminating position.

There are some examples of companies which used an AI algorithm for making hiring decisions and gave up because it was discovered that it gave preference to candidates whose CV included the words ‘execute’ or ‘take’, which were more often written by male candidates. In 2021, a WHO and UN report stated that applying AI revealed the so-called ‘digital ageism’, when AI made the wrong decision depending on the applicants’ age.<sup>9</sup>

In some cases, AI has led to racial and gender discrimination. This is very important in all aspects of sport, especially in performance analysis, player development and in injury prevention and rehabilitation.

Although existing legislation provides some protection, it is not sufficient to address the specific challenges that artificial intelligence systems pose. The EU has adopted a legal framework for the lawful and safe use of artificial intelligence by adopting the AI Act Regulation (EU) 2024/1689, which Member States are obliged to implement in national law and have the option of elaborating legal protection in detail. The EU AI Act is the first-ever legal framework on AI worldwide, which addresses the risks of AI and positions Europe to play a leading role globally.

### **3.1 The EU Artificial Intelligence Act**

Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024, which laid down harmonised rules on artificial intelligence (Artificial Intelligence Act or AI Act), constitutes the first comprehensive and legally binding regulatory framework for artificial intelligence at the global level. The explicit objective of the AI Act was to establish harmonised rules governing how artificial intelligence systems would be developed, integrated into the market, and used within the European Union. Having entered into force on 1 August 2024, the Regulation will be phased in over time. It will be fully applicable in 2026, thereby enabling both public authorities and private actors to adjust to its substantive and procedural requirements. From a normative standpoint, the AI Act represents a decisive shift away from soft-law instruments and voluntary ethical guidelines towards enforceable

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<sup>9</sup> Parlov et al., 2025.

legal obligations that directly affect the deployment of AI technologies in the sports sector. By imposing mandatory requirements relating to risk management, transparency, human oversight, and the protection of fundamental rights, the Regulation redefines the legal limits within which artificial intelligence may be integrated into sport. In doing so, it establishes a new paradigm of regulatory accountability, positioning binding law (rather than ethics alone) as the central mechanism for governing the societal, economic, and fundamental-rights implications of artificial intelligence in sport and beyond.

The AI Act introduces a risk-based regulatory framework (detailed in Chapter 4). Certain AI systems used in sport may qualify as high-risk, particularly when they affect health, safety, or access to professional opportunities. Obligations include risk management, human oversight, technical documentation, and accountability mechanisms.

### **3.2 Data Protection and the GDPR**

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation or GDPR). constitutes the cornerstone of the European Union's data protection framework and stands at the heart of how artificial intelligence systems in the sports sector are deployed. As a directly applicable regulation, the GDPR establishes binding obligations concerning the lawful, fair, and transparent processing of personal data, including data-intensive and automated decision-making systems based on artificial intelligence.

From a normative perspective, the GDPR plays a crucial corrective and rights-protective role in the context of AI-driven sports technologies, particularly where the processing of sensitive categories of data (such as health data, biometric data, or performance-related metrics of athletes) is concerned. By enshrining fundamental principles such as purpose limitation, data minimisation, accuracy, storage limitation, and accountability, the GDPR imposes substantive legal constraints on the use of AI systems that rely on extensive data collection and profiling. The GDPR classifies biometric and health data as special categories of personal data, subject to strict processing conditions. In sport, lawful processing typically relies on explicit consent, medical necessity, or substantial public interest. Sports organizations must

implement strong safeguards, including data minimization, purpose limitation, and transparency.

Moreover, the GDPR introduces specific safeguards against the risks associated with automated decision-making and profiling, notably through Article 22, which limits decisions producing legal or similarly significant effects based solely on automated processing. In the sporting context, this provision is of particular importance where AI systems are used for player selection, performance evaluation, injury prediction, or contractual and disciplinary decisions. Consequently, the GDPR reinforces the requirement for meaningful human involvement and procedural fairness, thereby complementing the risk-based regulatory approach of the Artificial Intelligence Act.

Taken together, the GDPR and the AI Act establish a cumulative and mutually reinforcing legal framework, in which data protection law functions not merely as a compliance obligation, but as a normative instrument to safeguard human dignity, autonomy, and fundamental rights in the increasingly data-driven and algorithmically governed domain of sport.

## **4 Sport as a High-Risk AI Environment**

### **4.1 Levels of Risk**

Sport represents a particularly sensitive environment for AI use due to its impact on physical integrity, career opportunities, and public trust. Competitive pressure and commercialization increase the risk of misuse, making robust legal and ethical governance indispensable.

The AI Regulation defines four levels of risk for AI systems: unacceptable risk (prohibited risk), high risk, limited risk and minimal or no risk.

‘High risk’ are cases of AI use that may pose a serious risk to health, safety or fundamental rights. ‘Limited risk’ are cases where there is a specific obligation related to transparency, e.g., when using AI systems such as chatbots, people should be aware that they are interacting with a machine to be able to make an informed decision. ‘Minimal or no risk’ applies to most AI systems currently used in the EU e.g. applications such as AI-enabled video games or spam filters.

In addition to the sanctions prescribed by the Regulation on Artificial Intelligence, when risks are realized and damage occurs, the person harmed has the right to compensation for damages.<sup>10</sup> Although the AI Act does not establish civil liability rules, it indirectly reshapes liability by imposing mandatory obligations. Non-compliance may function as evidence of negligence or as a basis for presumptions of fault in civil proceedings.

## **4.2 Fundamental Rights Impact Assessment (FRIA)**

A Fundamental Rights Impact Assessment (FRIA) is a mandatory, pre-deployment process under the EU AI Act for organizations using high-risk AI systems. FRIA is a methodology which identifies the risks and, according to the result, determines the organizational and technical measures to be applied. Before deploying a high-risk artificial intelligence system referred to in Chapter III, Article 6, para. 2. of the AI Regulation (with the exception of high-risk AI systems intended for use in the area referred to in point 2 of Annex III.), public bodies or private entities providing public services and deploying an AI system, as well as entities deploying high-risk AI systems referred to in point 5, subpara. (b) and (c) of Annex III, are required to assess the impact that the use of such a system may have on fundamental rights. AZOP (Agency for the Protection of Personal Data) recommends using the methodology developed by the Data Protection Authority of Catalonia (ADPCAT).

This methodology is combined with a personal data protection impact assessment, in such a way that the FRIA as a human rights impact assessment is performed at the stage of introducing a high-risk AI system (it is recommended to apply the FRIA even if there is no high-risk AI system because at some point, even if the system is not high-risk, processing activities may occur that would be classified as high-risk, and this is sometimes unpredictable), while the data protection impact assessment must be performed at the very beginning, i.e. before starting to develop the AI system.<sup>11</sup>

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<sup>10</sup> Parlov et al., 2025.

<sup>11</sup> Parlov et al., 2025.

## 5 Ethical Challenges of AI in Sport

AI poses three specific groups of ethical challenges as applied in sport:

1. Fairness and non-discrimination. AI systems may reproduce or amplify structural inequalities present in training data, undermining the principle of equal opportunity that lies at the heart of sport.
2. Transparency and explainability. The opacity of complex AI models limits the ability of athletes and coaches to understand and challenge AI-driven recommendations, weakening informed decision-making.
3. Human autonomy and dignity. Excessive reliance on AI risks reducing athletes to data points, potentially undermining their autonomy and human value.

AI in sports is using sensitive data such as athletes' health metrics, performance statistics and biometric data and there is significant risks of unauthorised access, misuse and discrimination.<sup>12</sup> For example, biometric data – such as injury risk predictions or physiological stress markers - could be used by teams or sponsors to exclude athletes from competition or contracts, even in the absence of clinical symptoms or athlete consent, thereby compromising athletes' privacy and autonomy.<sup>13</sup> Recognising these challenges, the Olympic AI Agenda<sup>14</sup> highlights the broader ethical and privacy issues associated with AI, including data security, accountability, fairness, job displacement and environmental impact. These concerns underscore the importance of the need to implement robust frameworks to ensure responsible and transparent AI deployment in sports.<sup>15</sup>

Existing frameworks such as the Organisation for Economic Co-operation and Development (OECD) AI Principles<sup>16</sup> and the European Commission's Ethics Guidelines for Trustworthy AI<sup>17</sup> offer foundational guidance on fairness, transparency and accountability, while regulations like the GDPR provide legal standards for data privacy and protection.<sup>18</sup>

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<sup>12</sup> Stahl & Wright, 2018; Petersen et al., 2025.

<sup>13</sup> Najjar, 2023; McNamee et al., 2021.

<sup>14</sup> International Olympic Committee, 2024.

<sup>15</sup> Zhou et al., 2025.

<sup>16</sup> Organisation for Economic Co-operation and Development, 2024.

<sup>17</sup> European Commission, 2019.

<sup>18</sup> Zhou et al., 2025.

In the sporting context, frameworks from organisations such as the World Anti-Doping Agency (WADA) also offer sport-specific data governance insights.<sup>19</sup> Building on these, implementing robust data governance frameworks with clear guidelines on data access and retention supports responsible handling of athletes' private data.<sup>20</sup> Advanced encryption and anonymisation further protect data by reducing risks of unauthorised access.<sup>21</sup> Ethical review boards<sup>22</sup> can evaluate AI projects for biases, while educating athletes on their data rights empowers them to make informed decisions.<sup>23</sup>

## **6 Liability for Damage Caused by AI Errors in Sport**

### **6.1 Types of Damage**

Damage caused by AI systems in sport may consist of ordinary damage (for example, injuries caused by flawed training recommendations), loss of profit (such as loss of income due to incorrect officiating), or non-material damage (violations of personality rights including reputational harm or privacy violations). The complexity of AI systems complicates traditional causal analysis.

### **6.2 Attribution of Liability**

Determining liability involves multiple actors, including sports clubs and federations, coaches and medical staff, AI developers and providers, and data controllers and processors. AI systems blur the line between human decision-making and technological autonomy, challenging traditional liability models.

### **6.3 Fault-based Liability and Duty of Care**

Under fault-based regimes, liability is contingent on a breach of the applicable standard of care. In AI-supported sport, this includes failure to critically assess AI outputs, over-reliance on automated systems, and lack of adequate human oversight. The standard of care increasingly entails a duty of informed and responsible AI use.

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<sup>19</sup> World Anti-Doping Agency, 2024.

<sup>20</sup> Orlando, 2022.

<sup>21</sup> Najjar, 2023.

<sup>22</sup> Guelmami et al., 2023.

<sup>23</sup> Qi et al., 2024; Zhou et al., 2025.

It is important to emphasize that the possibility of strict liability (i.e., liability without fault – neither intentional conduct nor negligence) when applying AI systems is high. The question is whether it should be strictly prescribed and for which cases. AI may pose different types of risks, in particular physical risks (called ‘safety risks’) and social risks (called ‘fundamental rights risks’). While the social risks posed by AI may be the most important and the ones primarily deserving legislative attention, strict liability for AI should be limited to cases resulting in the manifestation of physical risks (like death, personal injury or property damage, including damage to data and digital environments as well as psychological harm that amounts to a recognised state of illness). Strict liability for immaterial harm and its economic consequences has been advanced by the European Parliament in the context of AI liability, because it is problematic as the range of situations where compensation is due is potentially endless.<sup>24</sup>

When an AI system is given a high level of autonomy, it can potentially interrupt the causal link between an act and any damage which could result from it, creating uncertainty regarding who should, at least in principle, be held liable. AI algorithm acts alone, resulting in a responsibility gap which has to be avoided.<sup>25</sup>

The European Commission’s Proposal for an AI Liability Directive: In September 2022, the European Commission presented the Proposal for a Directive on adopting non-contractual civil liability rules to artificial intelligence (commonly referred to as the AI Liability Directive). The proposal aimed to address structural shortcomings of existing civil liability regimes when applied to damage caused by AI systems, particularly the difficulties faced by claimants in proving fault and causation in complex, opaque, and autonomous technological environments.

The Directive was conceived as a complementary instrument to the EU Artificial Intelligence Act and the revised Product Liability framework. Rather than introducing a new, uniform liability regime, it sought to adopt national fault-based liability systems by introducing targeted procedural mechanisms designed to rebalance evidentiary asymmetries between injured parties and AI system operators or providers.

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<sup>24</sup> Wendehorst, 2020.

<sup>25</sup> Cappiello, 2022.

A central feature of the proposal was that it introduced a rebuttable presumption of causality. Where a claimant could demonstrate (1) fault in the form of non-compliance with a relevant duty of care – such as obligations laid down in the AI Act – and (2) a reasonably likely causal link between that fault and the damage suffered, courts would be entitled to presume that the AI system caused the harm. The defendant would retain the possibility to rebut this presumption. This mechanism was designed to mitigate the ‘black box’ problem inherent in many AI systems.

In addition, the proposal introduced judicial disclosure obligations, empowering courts to order providers or users of AI systems – particularly high-risk AI systems – to disclose relevant technical documentation, logs, or system information necessary to substantiate liability claims. This addressed the informational imbalance that typically prevents injured parties from accessing evidence needed to establish causation.

Although the proposed Directive did not establish strict liability, it significantly lowered the practical barriers to enforcing existing fault-based claims. Importantly, it preserved Member States’ autonomy in defining substantive liability rules while harmonizing key procedural aspects relevant to AI-related harm.

In February 2025, the European Commission formally withdrew the proposal due to insufficient political consensus among Member States. Despite its withdrawal, the AI Liability Directive remains highly influential in academic discourse and policy debates. Its conceptual framework – particularly the adjustment of the burden of proof and the linkage between regulatory non-compliance and civil liability – continues to inform discussions on the future of AI liability in the EU.<sup>26</sup>

In the context of sport, the rationale underlying the proposed Directive is especially compelling. AI-driven training systems, injury-prediction tools, and officiating technologies involve high-risk decision-making with direct consequences for athletes’ physical integrity, economic interests, and professional careers. The difficulties in proving causation between AI-generated outputs and resulting damage mirror precisely the problems the proposal sought to resolve. Even in the absence of binding EU-wide rules, the principles articulated in the AI Liability Directive

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<sup>26</sup> Wendehorst, 2020.

provide valuable guidance for national courts and legislators when addressing AI-related damage in sport.

Fault-based liability requires proof that a person acted intentionally or negligently and thereby caused damage. In the sporting context, this may apply to coaches, physicians, clubs, or competition organizers who rely on AI systems but use them inappropriately or contrary to professional standards.

Example 1 (case): A coach of a professional football club uses an AI system to monitor players' workload and assess injury risk. The system warns that a particular player is at high risk of muscle injury, but the coach ignores the recommendation and includes the player in a full-intensity match. The player is injured and must remain sidelined for several months. In this case, the liability of the coach and the club may be based on fault (negligence), since they consciously disregarded relevant data provided by the AI system.

Example 2 (case): A coach of a professional football club uses an AI system to monitor players' workload and assess injury risk. The system doesn't warn that a particular player is at high risk of a muscle injury. However, the coach believes the AI made an obvious mistake and nevertheless includes the player in a full-intensity match. The player is injured and must remain sidelined for several months. In this case, the liability of the coach and the club may be based on fault (negligence).

Conclusion: Liability depends on who made the decision and how the AI system was integrated into the decision-making process. If the coach or the club used an AI tool but ignored other relevant data or failed to verify the recommendations, they may be liable for negligence. If the AI system was defective or improperly designed, the developer or manufacturer of the system may bear liability for a defective product. In some cases, liability could be shared, depending on the specific contractual arrangements and professional standards.

In any case, it is crucial to establish a causal link between the AI recommendations and the injury that occurred, and to assess whether the damage was foreseeable and could have been avoided through the exercise of due care.

## **6.4 Strict Liability (Liability without Fault)**

Strict liability does not require proof of fault; it is sufficient that damage occurred in connection with a dangerous activity or a dangerous object. In the context of artificial intelligence, certain autonomous systems may be regarded as sources of increased risk.

Example (case): At a professional tennis tournament, an autonomous AI-based officiating system is used (e.g., an automated line-calling system). Due to a technical malfunction, the system incorrectly awards a point in a decisive game, causing one player to lose the match and a significant monetary prize. Although the organizer did not act negligently, strict liability could apply because the damage arose from the use of high-risk technology in a competitive context.

## **6.5 Product Liability for Defective AI Systems**

Where AI systems qualify as products, defective design, insufficient training data, or unsafe default settings may trigger product liability. The key criterion is whether the system provides the level of safety that users are entitled to expect.

Directive (EU) 2024/2853 of the European Parliament and of the Council of 23 October 2024 on liability for defective products and repealing Council Directive 85/374/EEC (the Product Liability Directive – PLD) is a legal act of the European Union that regulates liability for damage caused by defective products. Its goal is to ensure that users who suffer damage due to a defective product can claim compensation, and that producers and other economic entities bear responsibility for such damage. The directive modernizes liability rules to cover modern technologies, including software, artificial intelligence and digital products. The term ‘product’ is expanded to include digital elements such as software and AI systems. The directive also provides for a presumption of malfunction when a product does not comply with safety obligations under other EU regulations, making it easier to prove damage. The new rules aim to achieve a higher level of protection for consumers and injured parties in the digital age.

Product liability concerns the manufacturer of an AI solution if the system is defective and such defect causes damage. A defect may lie in the design of the algorithm, in the training data, or in the technical implementation of the software.

Example (case): A club uses commercial AI software for performance analysis and training recommendations. Due to an error in the algorithm, the system systematically underestimates the level of fatigue of a certain type of athlete and recommends excessive workloads. Several players suffer injuries due to overtraining. In this case, liability could rest with the company that developed the AI system, under the regime of liability for defective products.

## **6.6 Liability for Breaches of Data Protection Rules (GDPR Liability)**

Athlete injury caused by AI-based training systems may give rise to liability of clubs, coaches, and AI providers. Incorrect AI-assisted refereeing decisions raise questions of institutional liability and the limits of judicial review of sporting decisions. Unlawful processing of biometric data may result in compensation claims under the GDPR, including non-material damage.<sup>27</sup>

AI systems in sport often process athletes' personal data, including particularly sensitive data such as health and biometric data. Unlawful processing, inadequate security, or misuse of such data may give rise to liability under the GDPR.

Example (case): A club uses an AI application to monitor players' physiological parameters (e.g., heart rate, stress levels, sleep quality). The data are stored on an unsecured server, and a data breach occurs, resulting in the public disclosure of players' health data. The players suffer reputational and professional harm. The club may be liable as a data controller for breaching GDPR obligations (lack of appropriate technical and organizational security measures).

## **6.7 Combined Liability and Algorithmic Discrimination**

In practice, multiple liability regimes may apply simultaneously, particularly where AI systems produce discriminatory or biased outcomes.

Example (case): A club uses an AI tool to identify talent and to recruit young athletes. The algorithm, trained on historical data, systematically assigns lower scores to candidates from certain socio-economic backgrounds or minority communities. As a result, these candidates are excluded from the selection process. In this case,

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<sup>27</sup> Koops et al., 2017.

the club may be liable for discrimination and for violating the right to equality, while the developer of the AI tool may be liable for defective algorithm design. If personal data were processed without an appropriate legal basis or transparency, additional GDPR liability may also arise.

## **8 Conclusion**

AI brings many benefits to sports, but it also comes with legal risks and ethical concerns that need to be managed carefully, especially with:

1. Data Privacy & Surveillance - tracking systems collect huge amounts of personal data which can lead to privacy violations if data is misused or leaked. Also, players might feel constantly monitored, creating stress or pressure. An athlete's health data could influence contract negotiations or team selection unfairly.
2. Fairness & Bias - AI systems can reflect biases in their training data, for example scouting algorithms might favor certain body types or playing styles, or gender. This could exclude talented athletes who don't fit the model's assumptions. For example: A recruitment algorithm trained mainly on European players might underrate talent from less-documented regions.
3. Using AI as the sole decision-maker instead of a data provider that informs human judgments - coaches and players could start trusting AI more than human judgment. AI can't always account for the 'human factors' – like motivation, leadership, or emotion – that affect performance.
4. Job Displacement - AI automation in scouting, analysis, and officiating (like VAR or Hawk-Eye) can reduce human roles in these areas. While it creates new tech-related jobs, traditional ones may decline.
5. Impact on the Spirit of the Game – too much technology might undermine the human and emotional aspect of sport. Fans and athletes sometimes feel that constant data analysis or video checks make the game less spontaneous or enjoyable. For example, the use of VAR in football has sparked debates about whether it 'kills the excitement' of live play.

6. Security Risks – AI systems are digital – meaning they can be hacked or manipulated.

7. Unequal Access – Tampering with AI scouting databases, performance models, or biometric trackers could give one team an unfair advantage. Wealthier teams or countries can afford advanced AI tools, while others cannot and this creates a wider performance gap and threatens fairness in competition.

AI in sports must be used responsibly, must protect privacy and fairness, and must be used in conjunction with human expertise rather than replacing it. Artificial intelligence offers substantial benefits for sport but simultaneously poses serious legal and ethical challenges. Existing EU legal instruments provide an essential foundation, yet they must be interpreted and applied in a sport-specific context. Liability for AI-caused damage emerges as a central issue, requiring a balanced approach that integrates fault-based liability, strict liability, product liability, data protection law, and ethical principles. Only through such an integrated framework can innovation in sport be aligned with the need to protect fundamental rights and the core values of sport. Liability rules serve not only compensatory but also preventive functions. Clear allocation of responsibility provides safer AI, meaningful human oversight, and ethical sports governance.

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