



# Football Integrity Report 2023

A Comprehensive Analysis  
of Suspected Match-Fixing



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# Foreword

**T**he Starlizard Integrity Services Football Integrity Report 2023 follows on from our Suspicious Betting Trends in Global Football Report, first published in 2018 in conjunction with Stats Perform. After four editions of that co-authored report, Starlizard Integrity Services are now publishing our own, exclusive report, looking at global trends in relation to suspicious football matches and suspected match-fixing within the sport.

Our new report aims to provide greater context and detail to the data that is already presented online in the Starlizard Integrity Knowledge Hub, examining key developments in suspected match manipulation during calendar year 2023 and drawing year-on-year comparisons to inform sport integrity stakeholders and the wider public about the extent to which corruption on the pitch is penetrating football.

Match-fixing remains an ever-present danger to football and is a plague on the game – damaging it as a spectacle and compromising the essential elements of skill, chance and fair play. It tarnishes the reputation of the game and all associated with it – including sponsoring brands – and ruins the trust and enjoyment of the fans. It destroys careers and costs people their liberty. Integrity is the linchpin that elevates football from

being a mere sport to something transcendent. Without integrity, football goes from being ‘more than a game’ to being far less than a game. The erosion of trust eats away at the sport’s unique ability to unite people, hindering their capacity to share and celebrate the beauty of the game together.

The manipulation of matches is not a new phenomenon in football, yet the perpetrators are enterprising and have become increasingly sophisticated in their methods and widespread in their activities. These criminals seek to exploit the betting markets - particularly in relation to lower-tier football matches - attempting to corrupt clubs, players and match officials to manipulate matches, thereby enabling the fraudsters to gain sizable financial profits from their betting activities.

At the high end of the complexity scale, this activity is carried out by established organised crime groups who compromise players and officials and also engage in other forms of serious and organised crime. At the lower end of the scale, match-fixing can be much less sophisticated - sometimes instigated by the players themselves, passing information to friends and family and inviting them to bet on certain predetermined outcomes.

Our findings, presented across the following chapters in this report,

reveal that match-fixing continues to pose a significant threat to the integrity of football, particularly in domestic league competitions. While our analysis of over 65,000 football matches in 2023 illustrates that suspected match-fixing affects only a very small percentage of games played across the world, it also demonstrates the increasing opportunities for criminals to abuse the betting markets and take advantage of the tough financial environments in which many clubs and players find themselves.

In March 2023, in a dedicated effort to assist in the ongoing fight against match-fixing, Starlizard Integrity Services launched Komodo, our

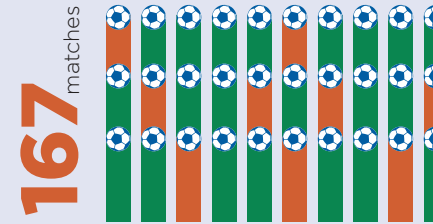
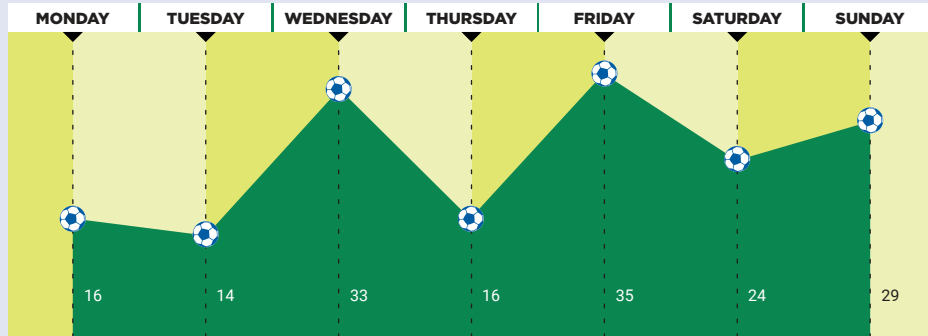
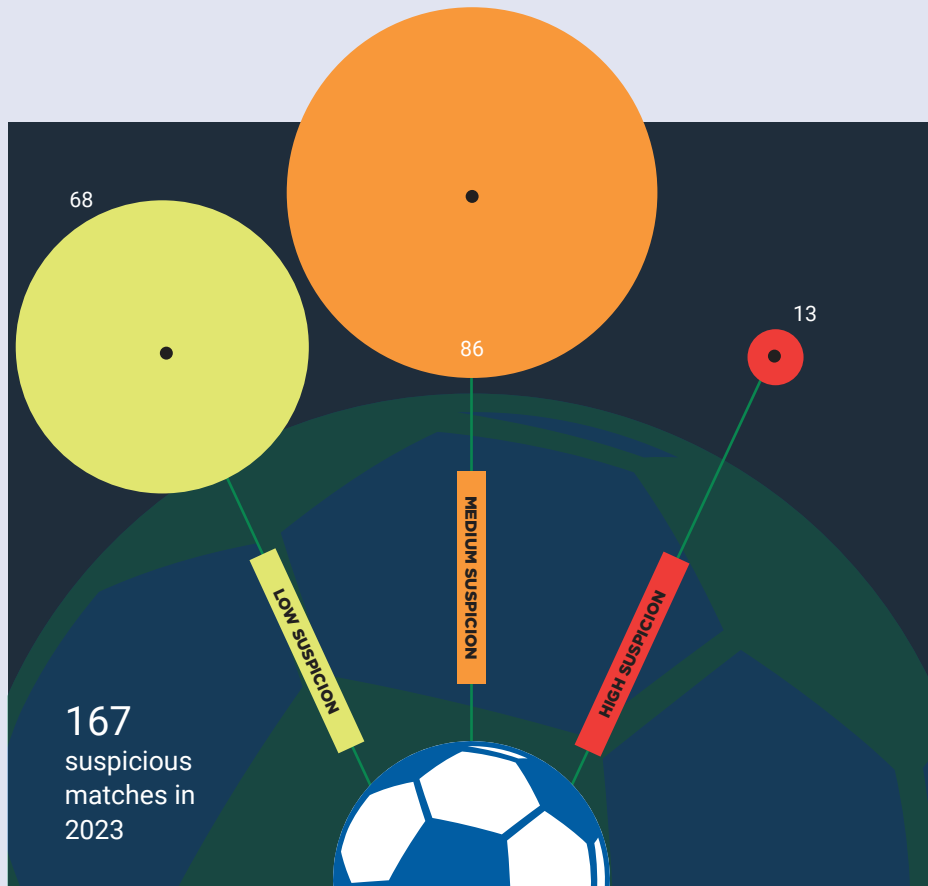
award-winning and free-to-access online anti-match-fixing platform for use by sports governing bodies and law enforcement agencies. Komodo harnesses the unrivalled knowledge and expertise of our experienced analysts to alert organisations when suspected match-fixing is taking place and presents them with expert evidential material for use in both criminal and civil prosecutions and disciplinary hearings. Through Komodo - and our other integrity services that we provide for free to sports and law enforcement bodies - we hope to make a positive and tangible impact in the fight against match-fixing, helping to ensure fairness in sport.

**Affy Sheikh**

Head of Starlizard Integrity Services

March 2024

# Headlines

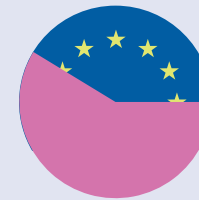


Of over 65,000 football matches analysed, a total of 167 were assessed as suspicious, showing indicators of potential manipulation. This represents 0.26% of the matches analysed.

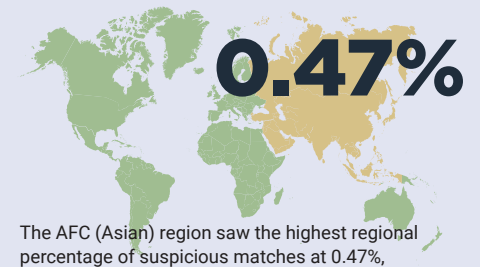
16%



The 167 suspicious matches identified represents an increase of 16% on the number identified in 2022 (144), although we analysed more matches in 2023, which means the percentage of suspicious matches has decreased from 0.39% in 2022 to 0.26% in 2023.

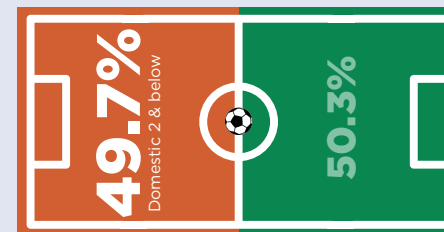


69 of the matches assessed as suspicious (41.3%) were played in the UEFA (European) region. However, this represents only 0.18% of the total UEFA region matches analysed – below the overall global percentage.



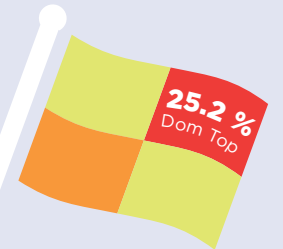
The AFC (Asian) region saw the highest regional percentage of suspicious matches at 0.47%, although 0.52% of all international matches analysed were assessed as suspicious.

0.18%

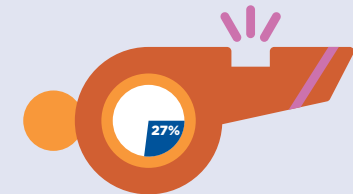
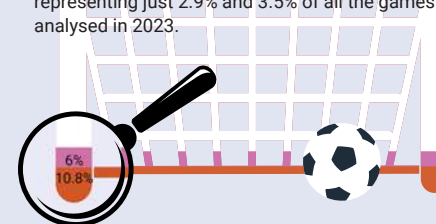


Just under half of all suspicious matches identified in 2023 were played in domestic leagues below the top leagues.

Top-level leagues themselves were not immune, with just over a quarter of all suspicious matches identified being in this category.



The risks to club friendly and youth matches are disproportionately high, accounting for 10.8% and 6% of the suspicious matches respectively, despite representing just 2.9% and 3.5% of all the games analysed in 2023.



Whilst Full-Time betting markets still dominate suspicious betting activity, there has been a significant rise in suspicious betting on First-Half Only markets. Of the 167 matches identified as suspicious in 2023, 45 (27%) involved betting solely on the First-Half Only markets, which represents a marked increase from only six games (4.2%) identified in 2022.



# Main Findings

**S**tarlizard Integrity Services analysed a total of 65,441 football matches played in calendar year 2023 across 835 competitions in 128 different countries.

A total of 167 matches have been assessed as suspicious, after showing indicators of potential manipulation. This represents 0.26% of the total number of matches analysed.

13 of these matches fall into the High suspicion category, with 86 matches categorised as Medium-level suspicion.

The number of suspicious matches identified in 2023 represents an increase of 16% on suspicious matches identified in 2022, which was 144. However, it should be further noted that Starlizard Integrity Services analysed a much higher number of matches in 2023 (65,441) than in 2022 (37,354) and so the percentage of suspicious matches has decreased from 0.39% to 0.26%.

Nevertheless, the latest figures show that match-fixing continues to present a threat to the integrity of football, with significant numbers of suspected match-fixing incidents still occurring, suggesting that current countermeasures are not wholly effective..

69 of the 167 games (41.3% of all suspicious matches identified in 2023) were played in the UEFA (European) region. However, the

analysis covered a far higher number of matches played in the UEFA region (37,951) compared with any other confederation region. When viewed in this context, the 69 matches represent only 0.18% of the total UEFA region matches analysed – below the overall global percentage of 0.26%. The AFC (Asian) region in fact saw the highest percentage of suspicious matches at 0.47%, although 0.52% of all international matches analysed have also been assessed as suspicious.

83 matches (49.7% of all suspicious matches identified in 2023) were played in domestic leagues below the top leagues. However, top-level leagues themselves were not immune from the shadow of match-fixing, with nearly a quarter of all suspicious matches identified being in this category.

The risks to club friendly and youth matches are disproportionate, accounting for 10.8% and 6% respectively, despite making up just 2.9% and 3.5% of all the games analysed in 2023.

The significant rise in First-Half Only suspicious betting market activity is especially noteworthy. Of the 167 matches identified as suspicious in 2023, 45 (27%) involved betting purely on the First-Half Only markets, suggesting that match-fixers are keen to manipulate the first-half of a football match as opposed to the whole result. When we include matches that show suspicious activity in both the First-Half Only and the Full-Time markets, the figure involving suspicious betting on First-Half markets increases to 35.3%.

In 2022, only 4.2% of suspicious matches involved betting purely on the First-Half Only markets. This suggests that match-fixers have made a decisive shift in their methods and are now targeting First-Half Only markets more than previously. This could be an attempt to focus on markets they perceive to be less scrutinised, or it may be that players are more willing to manipulate part or one half of a match than a full-time result.

# Breakdowns

We have seen that 41.3% of all suspicious matches identified in 2023 were played in the UEFA (European) region. However, it is important to note that we have analysed a far higher number of matches played in the UEFA region (37,951) compared to any other confederation region. When viewed

in this context, the 69 matches represent only 0.18% of the total UEFA region matches analysed – below the overall percentage of 0.26%. The AFC (Asian) region saw the highest percentage of suspicious matches (0.47%), while 0.52% of all international matches analysed were also assessed as suspicious.

## Suspicious Matches By Region\* 2023

| Confederation Region | Suspicious Matches | % of Total Matches Analysed Within That Region |
|----------------------|--------------------|--|
| UEFA                 | 69                 | 0.18%  |
| CONMEBOL             | 29                 | 0.34%  |
| AFC                  | 28                 | 0.47%  |
| International        | 28                 | 0.52%  |
| CAF                  | 9                  | 0.35%  |
| CONCACAF             | 4                  | 0.14%  |
| OFC                  | 0                  | 0.00%  |
| <b>Total</b>         | <b>167</b>         |  |

## Suspicious Matches by Betting Tier\*\* 2023

| Betting Tier | Suspicious Matches |
|--------------|--------------------|
| 1            | 0                  |
| 2            | 5                  |
| 3            | 5                  |
| 4            | 4                  |
| 5            | 5                  |
| 6            | 19                 |
| 7            | 2                  |
| 8            | 127                |
| <b>Total</b> | <b>167</b>         |

We can see from this data that the overwhelming majority of suspicious football matches (127, equivalent to 76.1%) identified in 2023 are in the lowest betting tier, suggesting that competitions with higher volumes of betting liquidity are at a lower risk of being manipulated.

## Suspicious Matches by Month 2023

| Month        | Suspicious Matches |
|--------------|--------------------|
| January      | 9                  |
| February     | 13                 |
| March        | 16                 |
| April        | 15                 |
| May          | 11                 |
| June         | 17                 |
| July         | 21                 |
| August       | 14                 |
| September    | 17                 |
| October      | 17                 |
| November     | 8                  |
| December     | 9                  |
| <b>Total</b> | <b>167</b>         |

Looking at when these suspicious matches were played, we can see a fairly even spread throughout much of the year, although July is shown to have been the busiest month, with the winter months seemingly quieter.

## Suspicious Matches by Level of Suspicion 2023

| Level of Suspicion | Suspicious Matches |
|--------------------|--------------------|
| High               | 13                 |
| Medium             | 86                 |
| Low                | 68                 |
| <b>Total</b>       | <b>167</b>         |

\* All regions – except 'International' – relate to the confederation in which club teams play their domestic football and only to domestic fixtures within the individual countries in the confederation. The term 'international' relates to international fixtures, as well as cross-border club competitions (e.g. Europa League, Champions League) and cross-border club team friendlies (regardless of country or club).

\*\* 'Betting tiers' relate to betting market levels, which sometimes, but not always, correlate to football tiers. Tier 1 represents high maximum stakes per bet, which would include elite level competitions such as the World Cup and the Champions League. Tier 8 matches are at the bottom end of this scale.

Congested fixture programmes – such as Saturday afternoons in Europe – can have a significant effect on how competitions are tiered. So competitions can be tiered based on their prominence and the timings of the matches played. For example, competitions in Asia may have a higher-than-expected tier status due to fewer competitions in the betting market space at the times these matches are played.



# Key Trends and Patterns

## The rise of First-Half Only suspicious betting

There has been a remarkable increase in suspicious betting activity on First-Half Only betting markets, which relate solely to the outcomes within the first-half of a match.

Of the 167 matches identified as suspicious in 2023, 45 matches (27%) involved suspicious betting purely on First-Half Only markets, and a further 14 matches saw suspicious betting on both First-Half Only and Full-Time markets, increasing the proportion of matches that saw suspicious betting activity in the First-Half Only Markets to 35.3%.

This is a sizeable and significant increase on 2022, which saw only six matches (4%) exclusively with suspicious First-Half Only betting

market activity, plus a further seven matches with suspicious betting on both First-Half Only and Full-Time markets.

The precise reasons for this uplift are unclear. It could be that match-fixers find it easier to convince players to manipulate the first-half of a football match as opposed to the entire game. It could also be the case that they perceive such markets to be under less scrutiny and that they therefore feel more likely to evade detection. Liquidity in the First-Half Only markets is likely to be less than that available within the Full-Time markets, so it may be an indicator that match-fixers are willing to compromise financial rewards in lieu of a sense of greater security.

## Lower leagues are especially (but not exclusively) vulnerable

Our analysis reveals that almost half (83) of all suspicious matches identified in 2023 were played in domestic leagues below the top leagues. This highlights the vulnerability of lower domestic league competitions, which may not have the highest liquidity betting markets (that is to say, the financial rewards to match-fixers may not be maximised) but feature players on smaller salaries who may be more prone to corrupt influence.

Yet top-level domestic league competitions are also at risk, with just over a quarter (25.2%) of all suspicious matches identified being in this category. Combined, domestic league competitions account for almost three quarters (74.9%) of all the suspicious matches identified in 2023.

Furthermore, the risks to club friendly and youth matches are notably disproportionate, accounting for 10.8% and 6% respectively, despite making up just 2.9% and 3.5% of all the games analysed in 2023.

## Suspicious Matches by Competition Level<sup>\*\*\*</sup> 2023

| Competition Level        | Suspicious Matches | % of Suspicious Matches |
|--------------------------|--------------------|-------------------------|
| Domestic 2 and below     | 83                 | 49.7%                   |
| Domestic Top             | 42                 | 25.2%                   |
| Club Friendlies          | 18                 | 10.8%                   |
| Youth                    | 10                 | 6.0%                    |
| Domestic Cup             | 7                  | 4.2%                    |
| Regional Cup             | 3                  | 1.8%                    |
| International 2          | 2                  | 1.2%                    |
| International Friendlies | 1                  | 0.6%                    |
| World Cup / Euros / COPA | 1                  | 0.6%                    |
| Women                    | 0                  | 0.0%                    |
| <b>Total</b>             | <b>167</b>         |                         |

## No women's matches flagged as suspicious this year

We conducted an analysis of 1,132 women's football matches played in 2023, with none being identified as suspicious. In contrast, the previous year saw an examination of 308 women's matches, with one match flagged as suspicious. While this indicates that match-fixers may not be targeting women's football as extensively as men's, the lingering risk persists. This is especially relevant as women's football gains popularity and betting markets see an increase in liquidity.

## Suspicious Matches by Betting Market Types

| 2023            |           |                             |               | 2022            |           |                             |               |
|-----------------|-----------|-----------------------------|---------------|-----------------|-----------|-----------------------------|---------------|
| First-Half Only | Full-Time | First-Half Only & Full-Time | Other Markets | First-Half Only | Full-Time | First-Half Only & Full-Time | Other Markets |
| 45              | 96        | 14                          | 12            | 6               | 116       | 7                           | 15            |

<sup>\*\*\*</sup> Competition Levels are defined as follows:

- Domestic Top: Top domestic leagues
- Domestic 2 and below: Domestic leagues other than the top league
- Domestic Cup: Domestic club cup competitions
- Regional Cup: Inter-country club competitions (e.g. UEFA Europa League, AFC Champions League)
- Youth: All Under 23 age group matches and lower
- Women: Women's matches
- Club Friendlies: Friendly matches between clubs from different countries
- International Friendlies: Friendly matches between international teams
- World Cup / Euros / COPA: Any matches from the World Cup, European Championships and Copa America (including qualifying matches)
- International 2: Any other international match

# Methodology



**S**tarlizard Integrity Services initially detects suspicious football matches through a variety of routes. These include internal notifications from our bespoke technology platforms and expert football and betting analysts, external notifications from football governing bodies and integrity partners, and open-source information.

In all cases, regardless of how the notification is received, each match is analysed by a dedicated integrity analyst to see whether the grounds for flagging as suspicious are sufficient and meet our required threshold based on the evidence available to us.

The first stage in this process is to examine the betting markets for

any irregular behaviour indicative of betting-fraud related match-fixing. The primary source here is data from the Asian betting markets, in particular the Asian Handicap and Total Goals markets, as these are the most significant and liquid markets that dominate global betting patterns. Analysts will also look at other non-Asian markets where these are available, including betting activity and volumes on the Betfair exchange.

Each match assessment is then quality assured by a group of cross-departmental integrity analysts to ensure all relevant factors have been given due consideration, prior to a final Suspicion Rating being allocated to a match.

An internally generated alert harnesses Starlizard's core ability to analyse events both on and off the football pitch and convert these into true probabilities. Once a true probability has been defined, this allows us to accurately identify matches that are anomalous and atypical, where bettors are behaving contrary to all rational logic and the betting markets prices subsequently display characteristics that go against regular market principles and deviate from our expectations of a regular football match.

In addition to the analysis of betting markets both before and during a match, a separate dedicated team investigate and assess the performance of the participants on the field of play using objective qualitative analytical techniques and in-house data collected from available video footage of the match

in question. This process is undertaken in isolation from the betting analysis, so as to negate the risk of influence and unintended bias.

The performance analysis team examine a number of set categories and, wherever possible, compare the findings to other relevant performances of a team, player, or within a competition, in order to contextualise and fully understand how irregular the data for that match might be.

As well as collecting and measuring performance related data, technical expert insights are used to add context to the performance analysis, such as whether an action is good or bad, or crucial or non-crucial, excluding any potential alternative explanations, or whether it can be said to be reasonable under the specific circumstances that existed at that moment in time on the field of play.

Where a match shows characteristics of an underperformance by participants on the pitch that has confidently been predicted by bettors in the market – particularly when that underperformance can objectively be shown to be statistically anomalous – the final Suspicion Rating will likely be towards the higher end of the Suspicion Rating scale.

It is important to note that the number of matches analysed each year will fluctuate. This should be borne in mind when making direct year-on-year comparisons.





## What is the Suspicion Rating scale?

Suspicious matches are assessed and categorised into three levels of suspicion as follows:



### High

These are games with the most comprehensive and suspicious indicators of a match manipulation having taken place.



### Medium

These matches display strong indicators of potential match manipulation, although the presence of specific information or mitigating factors may alleviate the overall suspicion.



### Low

These matches exhibit anomalies that cannot be solely accounted for by mitigating factors, making it impossible for us to dismiss the possibility of manipulation having occurred.



### None

These matches show no tangible irregularities or indicators that any manipulation has occurred.



# About Starlizard Integrity Services

**S**tarlizard Integrity Services was formed in 2017 as a dedicated integrity division of Starlizard, a sports betting consultancy in London, United Kingdom. Founded in 2006, Starlizard specialises in making the world's most accurate sporting predictions. It is committed to understanding the intricacies of football matches and their associated betting markets, providing expert opinions on a huge range of leagues and tournaments across the globe. This is done by analysing millions of data points to distil what is happening on the pitch and in the betting markets, converting this data into accurate betting probabilities.

Starlizard Integrity Services works with sports governing bodies and law enforcement agencies across the world, striving to achieve our vision of Fairness In Sport and helping to combat match-fixing. By harnessing Starlizard's unrivalled knowledge of sports and betting

market movements, we are perfectly placed to identify suspicious games and betting patterns. With over 100 analysts and a vast intelligence network with eyes on football competitions across the globe 24 hours a day, 7 days a week, our ability to provide meaningful analyses from inside the betting markets is unequalled.

Starlizard's active involvement in betting markets affords deeper insights than other providers. We know what betting markets should look like better than anyone else in the world. This means we also know better than anyone else when betting markets look wrong.

Starlizard as an organisation has been producing independent anti-match-fixing analyses for integrity partners since 2010, using our unique insight to identify betting market discrepancies and suspicious patterns, coupled with on-pitch performance data analyses and detailed research.

Today, Starlizard Integrity Services is proud to be continuing that work through partnerships with a number of sports governing bodies, offering them an invaluable inside-the-market perspective to assist in identifying anomalies before and during games, both on and off the field of play. Our expert evidence has been accepted in the Court of Arbitration for Sport and we have held ISO 9001 Quality Management certification since 2019.







# Komodo

In March 2023, Starlizard Integrity Services launched Komodo, an award winning and free-to-use online anti-match-fixing alerting platform for use by sports governing bodies and enforcement agencies globally to help them better combat manipulation in sport. Komodo notifies users when a suspected match manipulation has occurred and delivers clear and easy-to-understand match analysis reports. These reports are designed to kickstart and support investigations, and can be used as expert evidence in courts and tribunals, with Starlizard Integrity Services' expert evidence already confirmed by the Court of Arbitration for Sport (CAS) as an appropriate tool in the fight against match-fixing.

Starlizard Integrity Services offer Komodo to sports organisations and enforcement agencies free-of charge, with no dependency on any data or other commercial considerations, ensuring the platform is equally accessible to all stakeholders regardless of budgets or constraints.

Komodo won the International Sports Award for 2023 in the Sport Integrity category.





# Our Core Services

## Unique Betting Market Analysis

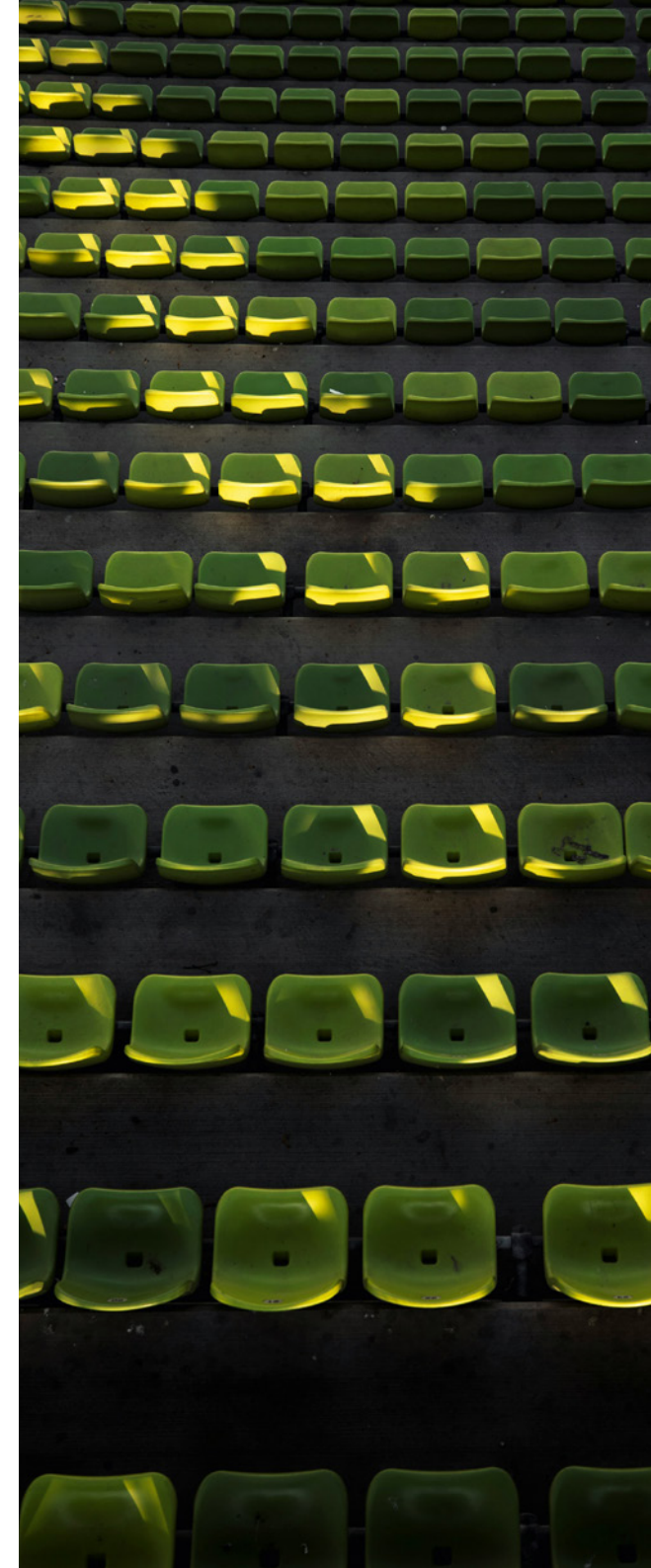
Our experienced match analysts carefully observe, monitor and report irregularities in betting activity to shine a light on the difference between 'smart-betting' and sports manipulation. Betting market analysis is complicated. Our reports are easy to understand and accessible, so you can confidently use the information in disciplinary and criminal legal proceedings. And they are free to governing bodies and law enforcement agencies. Our real-time prediction modelling systems are tried, tested and world-renowned. We intricately compare the betting market alongside our own predictions and identify all discrepancies – big or small. Simply, we know how the market works, from the inside. Our football analysis focus is on the Asian betting markets, the largest and most liquid in the world. Our reports include both implied Supremacy and Total/ Expected Goals (xG) analysis. The reports are in-depth, direct and created to offer as evidence if needed. With no cost attached.

## Microscopic Performance Integrity Analysis

Our experts identify statistical anomalies in performance levels, independently from betting market analysis – with results that steer clear of potential bias. Our performance analysts study video footage of players and match officials, analysing match performances in high detail. We look for statistical anomalies, suspicious errors, attacking events, game changing actions and shot distribution. Our bespoke system supports our analysts to create an objective review and presentation of statistical findings. We're able to accurately draw comparisons with past performances – and other games – using a vast database of global matches spanning many years.

## Capacity Building, Education & Training

We work with governing bodies, integrity officers, anti-corruption units, law enforcement agencies and academic institutions. The goal is to accelerate awareness of investigative capabilities in anti-match-fixing. When you know the techniques used to build a successful case, you feel more empowered. With our backgrounds in sports betting and performance analysis, as well as law enforcement, we use this combined experience and expertise to show how evidence is collected in a match itself and can be used for action. Our education experts can deliver training in person or online, with your specific requirements in mind. And clarity is always the desired result.





If you would like further information, please contact us at  
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