



# VAR Value Proposition

**Make the Right Decision.** Streamline your live game with Appear's high-density, ultra-fast VAR solution



## Getting The Angle

Key sports such as football, rugby, and cricket increasingly use technology, such as **Video Assistant Referee (VAR)** systems, mandated by their sports federations, to enhance game fairness and support officials' decision-making.

Despite ongoing debates about VAR, its ability to quickly deliver **high-quality information** to both on-field and off-field officials is crucial for accurate decisions during critical moments of competition.

Implementing a **cost-effective, user-friendly, and efficient VAR solution** is vital, ensuring it does not sacrifice decision speed or quality, given the significant impact on game outcomes and the high costs associated with delivering live content.



The availability of these video links is also critical as VAR video footage can be needed at any time during a sporting event. VAR applications also require ultra-low latency video links between the cameras on the pitch, and the remote facility Video Operations Room (VOR), which hosts the assistant referees.

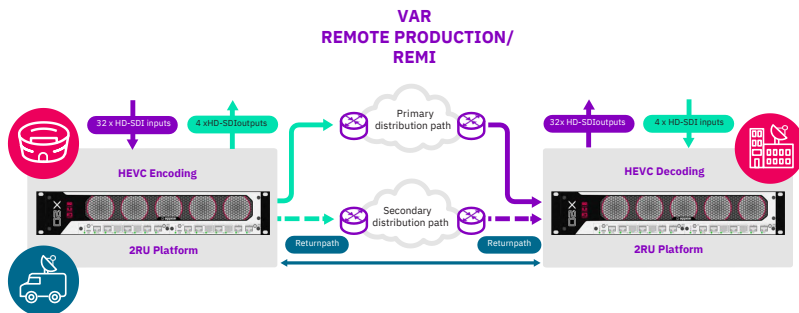
To enhance the efficiency of these services, it is vital to ensure fast and secure access to multi-angle camera footage. This enables the rapid review of critical moments, allowing on-field officials to make swift and better-informed decisions. Such a system is crucial for maintaining the flow of a game, minimising disruption time for players, supporters, and officials.

The demand for an affordable, high-quality, reliable media processing solution is growing, especially one that supports swift, accurate on-field decisions through rapid human analysis. This solution should balance speed with low latency and clarity with high video quality for VAR and slow-motion replays, ensuring it enhances decision-making effectively within budget constraints.

## Delivering the decision

Appear's X20 solution tackles the challenge of providing high-quality VAR services on a constrained budget. By consolidating multiple camera feeds into a single 2RU unit, it achieves more sustainable video delivery.

Its compact design saves on shipping, space, connections, and power consumption, significantly lowering both the initial investment and the total cost of ownership over the solution's lifetime.



## The key advantages and benefits of Appear's VAR transport solution include

### **Operational Simplicity**

By condensing the channel and function density into a single 2RU unit, the X Platform drastically reduces any operational complexity. This ease of use is a significant advantage for on-field officials and event/remote-based technical teams.

### **Ultra-Low Latency & High-Quality Video**

The X Platform prioritizes real-time performance with ultra-low latency, ensuring that video feeds are transmitted almost instantaneously. This ensures content makes its way from the camera to the VOR, and back to the pitch, in a matter of seconds, so that a referee can make a decision in as close to real-time as possible. This is coupled with superlative high-definition video quality, essential for maintaining the integrity of the source content and ultimately delivering rapid and accurate decision-making in sports officiating.

### **Cost-Efficiency in Content Transportation**

Core to the engineered design of the X20 is the ability to minimise all costs associated with content transmission, making it an economical choice for sports federations operating under tight budgets and delivering a mandated VAR system.

### **High Density**

The cutting edge, innovative design of the X Platform allows for the aggregation of multiple camera feeds into one compact 2RU unit. This significantly reduces the spatial and operational complexity traditionally associated with handling numerous feeds, thereby streamlining the content transport and delivery process to and from the operations centre.



## The key advantages and benefits of Appear's VAR transport solution



### **Power Efficiency and Ecological Sustainability**

Organisations are increasingly pressured to minimize their carbon footprint, aiming for net-zero carbon emissions. The energy-efficient design of the X20 unit not only cuts operational costs but also supports ecological sustainability goals, making it an environmentally friendly choice.



### **Versatility and Scalability**

Beyond VAR applications, the X20 platform is also equipped to handle live contribution and remote production links. This versatility ensures that the unit can be optimised and scaled to incorporate more varying live contribution needs across different sports events. This means that the platform is equipped to process and deliver a huge range of different workflows for live contribution and production. The platform also supports an extensive range of compression formats including High Efficiency Video Coding (HEVC), JPEG XS and Uncompressed enabling easy expansion of new capabilities and scaling of different services.



### **Reliable and Robust**

Reliability in video contribution links is paramount, as VAR can be invoked at any crucial moment during a match, influencing the game's outcome. A failed video connection at a pivotal moment could determine whether a team wins or loses, disrupting the game's flow and causing frustration among fans and players alike. The X Platform addresses this by providing a dependable and robust connection, ensuring seamless VAR integration without compromising game integrity or viewer satisfaction.

## VAR credentials

Production companies have been using Appear's X20 Platform to deliver the low latency contribution links for VAR since the 2018-2019 football season, in topflight professional football leagues in countries like Spain, Greece, France, Thailand and in national tournaments in the Americas.

Appear's X20 Platform was the perfect solution for the production companies supporting VAR at international live football matches. The single chassis, which was deployed within the Outside Broadcast (OB) vehicle, was able to process more than 20 camera feeds simultaneously whilst reliably and securely transmitting these feeds over IP to the Video Operations Room (VOR).

As a result of the proven reliability, and thanks to the scalability of the system, the X20 Platform was also expanded with additional capability to provide light-compression contribution links for remote production in a number of these matches.





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Appear can deliver your VAR  
application

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