



UEFA FOOTBALL TECHNOLOGIES

VAR in Qualifying Rounds of UEFA's Men Club Competitions

Use of Video Assistant Referee in the Qualifying Rounds

Introduction

Pursuant to competitions' regulations, UEFA will implement the use of VAR technology from the following rounds of the competitions for the season 2023/24:

- UEFA Champions League: as of preliminary round
- UEFA Europa League: as of third qualifying round
- UEFA Europa Conference League: as of play-offs

The aim of the document is to indicate the necessary requirements for VAR delivery during these rounds.

UEFA will centrally manage and fund the VAR service for all matches.

The clubs are required to:

- Organize the broadcasting of the match including the minimum requirements for the implementation of VAR.**
- Complete the online form with all necessary preparatory information for the VAR supplier at least 10 days before the match. The form will be shared together with the Draw letter of the relative rounds.**

Due to the short timeframe between the different rounds of the competitions, it is imperative that preparations start as soon as possible - even though qualification to the specific round has not yet been achieved.

VAR Set Up

The VAR solution chosen for the qualifying rounds is venue-based. This means at every match the Video Operation Room (VOR) will be either a van located in the TV compound (standard solution) or an existing room/cabin in the stadium (for specific countries).

The VOR is where the VAR team will be based. The team is composed of the following members:

Match Officials

1. Video assistant referee (VAR)
2. Assistant VAR (AVAR)

Supplier's Staff

3. Replay operator(s) (RO)
4. RRA Assistant (RA)
5. Video Technical Guarantee (VTG)

The VAR and AVAR are part of the refereeing team, along with the on-field referee, two assistant referees and the 4th official.

VAR Technical Supplier

Hawk-Eye Innovations (HEI) and Mediapro (MPRO) are the official service and VAR technology supplier of the UEFA Competitions. The supplier appointed for a specific match will be responsible for the set-up and supply of the physical infrastructure required to deliver VAR, including the technology (monitors, servers, cabling) as well as the provision of experienced FIFA-certified replay operators whose responsibility will be to provide the best angles possible of incidents that are being reviewed by the VAR.

Referee Review Area (RRA)

A referee review area equipped with a monitor (and a backup) will be installed at the venue for the referee to review footage of an incident indicated by the video assistant referee located in the video operations room. UEFA may decide to use existing infrastructure for the referee review area or set up a new area in the immediate vicinity of the pitch. The RRA should be in a neutral area adjacent to the pitch with a minimum size of 2m x 2m. It should be visible to the public and should be separated from each team's technical area. Only the referee is allowed to review replays in the RRA.

The club is requested to **identify the RRA position** (ideally close to the 4th official, on the same side as the main broadcast production stand) and share it with the VAR supplier via the form.

TV Compound Vehicle

The VAR supplier's vehicle will normally arrive on MD-1 (or MD-2), therefore access and adequate parking space in the broadcast compound must be available on that day. The operational area required in the TV compound for the VAR vehicle is 10m x 4m x 4m and it should be max 40m from the HB OB Van.

The following facilities must be available in the compound within 50m of the parking position:

- A **local power supply** (32A 3-phase) from the stadium infrastructure.
- Technical power supply** (32A 3-phase) from the Host Broadcaster.
- An **Internet Line** minimum 20 Mbit/s symmetric up- and download speed delivered by the local telecommunications provider or from the existing network infrastructure. No port or protocol restriction.

It is expected that the Host Broadcaster **will be on site at least on MD-1** to complete the set up together with the VAR Supplier.

Host-Broadcasters

As per Article 66 (*Commercial rights for the qualifying phase*) "Member associations and their affiliated organizations and/or clubs are authorized to exploit the commercial rights of the home qualifying phase matches which take place under their respective auspices ("qualifying rights")."

Clubs must share all the VAR requirements with the proposed HB and receive written guarantees that the obligations on the HB side are achievable before signing a production contract.

Production Format

The VAR supplier is capable of ingesting and distributing content in both 1080i50 or 1080p50 SDR to accommodate 3G, UHD-SDR and UHD-HDR productions. The VAR supplier will not be able to ingest or provide feeds in HDR.

Standard	Name	Production: video formats
SMPTE 292M	HD-SDI	1080i50
SMPTE 424M	3G-SDI	UHD (1080p50)

Camera requirements

To guarantee the proper implementation of VAR, the TV production must include a **minimum of 6 cameras**.

The following cameras are mandatory:

- Main Camera (wide)
- Tight Camera on main camera gantry (tight)
- 16m Left (wide)
- 16m Right (wide)
- These must be supplemented by a minimum of two additional cameras.

Video Interconnections

- The VAR supplier will ingest all the camera feeds (all in the same format) directly from the OB truck to the VAR van.
- The VAR supplier will provide the cabling from the OB van to the VAR van.
- Every pitch-facing multilateral broadcast camera must be available for VAR.
- The VAR supplier requires all phases of super slow-motion cameras.
- The inclusion of ultra-motion cameras to the VAR system will depend on the camera model. The VAR supplier will either:
 - ingest all phases of the camera
 - or capture the live feed and the replay feed from the camera independently
- The VAR supplier will also require a PGM feed and a video reference (black & burst or tri-level are acceptable).
- The VAR supplier will provide the HB a video output (VAR output) in the same format as the ingested camera feeds
- The VAR output should be permanently recorded by the HB.

Intercom Requirements

- All communication equipment required for the VAR technical set-up must be provided by the HB to the VOR (van or room). However, the VAR supplier will install other communication circuits independent of the HB (for example between the match officials). The VAR supplier will organize and

clear the frequencies required for these independent circuits and will notify the HB of the frequency range.

- The HB to VOR communication circuit should be used for technical setup before the match and in the event of any technical issues during the game. The VAR supplier's operator (Video TG) could use the intercommunication panel to announce the availability of offside line pictures to the EVS operator.
- The Video TG will be listening to the director.
- The VAR communication circuit should never be used during the game for trying to communicate with the VAR.

Therefore:

- **HB needs to provide a multi-key intercommunication panel in the VOR with a dedicated key for VAR set up related issues.**

VAR Testing

Testing and sign-off of the VAR system ahead of every match, both independently by all parties involved in the delivery, and in synchronization, is an essential requirement for the implementation of VAR. UEFA will therefore appoint a "VAR Support" person to help coordinate on-site operations.

The UEFA VAR Support should arrange a VAR meeting on MD-1 with all stakeholders (Club, Stadium, HB and VAR supplier present to confirm the processes and timings.

MD-1 VAR stadium approval test (if required)

As a FIFA/IFAB requirement, a stadium approval test must be completed **once at each stadium**. This test will approve the use of VAR at the venue with the specific supplier. If the venue has been already used in UEFA competitions with the appointed supplier, a stadium approval will not be needed.

In accordance with FIFA guidelines, the approval test should be carried out on MD-1 to allow time to rectify any issues that may be discovered. In exceptional situations, a stadium approval can also be completed on MD morning. Further testing and calibration will be carried out on MD for final internal sign-off. The pitch must be prepared in match conditions for all required tests (i.e. pitch markings, full floodlighting, goals in place, etc.).

- **No earlier than 17:00**, exact timing TBC (after all MD-1 activities have been finalized) - MD-1 stadium approval test: duration 30 minutes
 - 2 people will simulate actions on the pitch that need to be recorded into VAR Van
 - Timing to be agreed in the week prior to the match between UEFA, HB and club.
- All match cameras (including SSM) must be switched on and pitch-facing
 - The main camera, two 16m and all super slow-motion (SSM) cameras must be tested with operators.
 - Not all cameras need to be manned at the same time - the test can be completed with a minimum of four operators.
 - All other unmanned cameras should be switched on, locked-off, pointing towards the pitch.

Matchday tests (required every MD)

- *K.O. -6h - Communication test: duration 15-20 minutes – UEFA VAR Support*
 - Communication check of all panels and circuits and all VAR Information System with the following VAR stakeholders: UEFA VAR Support, HB, VAR Supplier, the giant screen operator (if applicable). A checklist will be shared.
- *K.O. -5.30h - Offside calibration test: duration 15-20 minutes*
 - The main camera, 16m cameras and high behind camera (if requested by the VAR supplier) will perform offside line sweeps. The VAR supplier will share the specific requirements of the calibration in advance.
 - The HB director and camera operators will be briefed about the pans required and VAR supplier staff will be on hand to assist further if required.
 - The test can be completed with one or more camera operators moving between cameras.
 - For the first match in each venue this test should ideally also be completed on MD-1 as well as MD, ahead of the MD-1 stadium approval test
- *K.O. -1.30h the latest - Camera Synchronization Check with all cameras: duration 5 minutes*
 - A synchronization test is required to confirm all feeds between the broadcaster into the VAR system are in sync with each other. The test requires the following:
 - All pitch facing cameras to be available and manned at the same time
 - A VAR Supplier member of staff will bounce a ball at the edge of the pitch
 - All cameras focus on the bounce
 - This test should take no longer than 5min if all the cameras are correctly positioned and manned at the same time

TV Coverage and Giant Screen Graphics

On field review coverage

If requested by the club or the HB, the VAR Output can be shown in the program feed during an On-Field review.

In this case UEFA's recommendation is to use a split screen template with the VAR Output in the larger frame and the referee in a smaller window (see example below).



Please note that the VOR camera will not be available for the HB.

VAR TV and giant screen graphics – not mandatory

The insertion of VAR TV graphics in the program feed or giant screen is not mandatory for the use of VAR. If the club or the host broadcaster (or its TV graphics supplier) would like to use the graphics, we recommend having at least three (3) VAR graphics to be displayed during the VAR process.

The generic VAR messages are:

- VAR Check
- Check Over
- VAR Review

a) Insert VAR check if the game is stopped and the referee is making the below gesture.



- b) Check Over if the game restarts without any VAR intervention.
- c) VAR Review is the referee is making the TV signal (for a direct or on-field review)



Support contacts

For any questions related to the delivery of VAR please directly contact:

- UEFA Football Technologies unit : FootballTech@uefa.ch



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