

VIDEO ASSISTANT REFEREES (VARs)

**Implementation handbook for competitions
conducting live experiments with video assistance for clear
errors in match-changing situations**

‘minimum interference – maximum benefit’

Version 8

April 2017

*Changes since Version 7 (January 2017) are shown in **maroon** and are mainly in response to questions from participating competitions*



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1. Introduction

The 130th Annual General Meeting (AGM) of The International Football Association Board (The IFAB) in Cardiff on 5 March 2016 approved a two-year period of *'live experiments with video assistance for clear errors in match-changing situations'* involving a (or more) Video Assistant Referee (VAR – pronounced V-A-R), who will be a match official, to determine if *'the implementation of VARs improves the game'*.

The aim of the experiment is NOT to achieve 100% accuracy for all decisions as there is no desire to destroy the essential flow and emotions of football which result from the game's almost non-stop action and the general absence of lengthy stoppages. The philosophy is:

'minimum interference – maximum benefit'

To ensure that the referee (not the VAR) is the key match official, the referee will ALWAYS make a decision (except a 'missed' usually 'off the ball' incident), including the decision that no offence has occurred. The referee's decision can ONLY BE CHANGED if the video review shows a CLEAR ERROR i.e. not *'was the decision correct?'* but:

'was the decision clearly wrong?'

National FAs and competitions are only permitted to take part in experiments (or use VARs) with the permission of The IFAB. Permission will only be granted where The IFAB protocols will be used in full and The IFAB's referee-VAR education and technical requirements have been fulfilled:

'one protocol – used by all'

2. Summary of VAR protocol

Reviewable decisions

Match officials make hundreds of decisions in every match, including decisions that an offence has not occurred. It would be impossible, without completely changing football, to review every decision. Thus, the experiment limits the use of VARs to four categories of match-changing decisions/incidents:

- Goals
- Penalty/ no penalty decisions
- Direct red cards (not 2nd yellow cards)
- Mistaken identity

In all these situations, the VAR is only used after the referee has made a decision (including allowing play to continue), or if a serious incident is ‘missed’ i.e. not seen by the match officials.

Principles

There are twelve principles which are the foundation of the VAR experiment:

1. Video technology will only be used to correct **clear errors** and for **missed serious incidents** in defined match-changing decisions: goal, penalty/no penalty, direct red card and mistaken identity (e.g. the referee cautions/sends off the wrong player).
2. **The final decision will always be taken by the referee.**
3. **Video Assistant Referees (VARs) are match officials** - any information the VARs provide to the referee will be treated by the referee in the same way as information received from an assistant referee, additional assistant referee or the fourth official.
4. **The referee must always make a decision** regardless of the existence of VARs i.e. the referee is not permitted to give ‘no decision’ and refer the situation to the VAR. If the referee decides not to stop play for an alleged offence, the decision (to allow play to continue) can be reviewed. On rare occasions, when it is unclear whether a penalised cautionable (YC) offence is a sending-off (RC), or who should receive the sanction, the referee may consult the VAR.
5. The **original decision** given by the referee **will not be changed unless** the video review clearly shows that **the decision was clearly wrong.**
6. **Only the referee can initiate a review;** the VAR (and the other match officials) can only recommend a review to the referee.
7. Whatever the review process, there is no time pressure to review the decision quickly as **accuracy is more important than speed.**
8. The players and team officials **must not surround the referee** or attempt to influence if a decision is reviewed, the review process or the final decision. A player who uses the ‘review signal’ will be cautioned (YC).

9. The referee should, as far as possible, **remain 'visible' during the review process** to ensure transparency.
10. If play continues after an incident which is then reviewed, **any disciplinary action** taken/required during the post-incident period **is not cancelled**, even if the original decision is changed (except a caution/send-off for stopping a promising attack or DOGSO).
11. There is a **maximum period** before and after an incident that can be reviewed.
12. The VAR protocol, as far as possible, conforms to **the principles and philosophy of the Laws of the Game**.

Review process

The VAR will watch the game on TV screens in the video operation room (VOR) which may be in/near to the stadium or in a more central location (e.g. match centre). For integrity/transparency/credibility, the VAR, assisted by a replay operator (RO), will have independent access to, and replay control of, all broadcast 'feeds' so any review uses the same footage as that which may be seen on television. **The integrity of the VAR system would be undermined if the broadcaster could show footage not available to the VAR/referee which contradicts the VAR/referee decision.**

The VAR will automatically 'check' every situation/decision to see if a potential clear error has been made in a match-changing situation or if a serious incident/offence has been missed; there is thus no need for coaches or players to request a review as, if something has been missed, it will be seen by the VAR.

If no review is needed then communication with the referee is not necessary – this is a 'silent check'. If a 'check' indicates that an incident should be reviewed, the referee should be informed immediately. In addition, if the referee suspects that a major error may have occurred, or something serious has been missed, a review can be requested.

Only the referee can initiate a review – other match officials (especially the VAR) may recommend a review but only the referee will decide whether or not to have a review and the outcome of that review. The referee may decide that the match officials have clearly seen the incident and therefore no review is needed.

If the referee wants a review when play has not stopped, play should be stopped as soon as it is in a 'neutral' zone/**situation** i.e. when neither team has a good attacking possibility.

The referee must clearly indicate that the review process has been initiated by visually showing the outline of a TV screen; a decision can not be changed unless the review signal has been shown. The restart of play must be delayed until the end of the review; referees must prevent the 'offending' team/player restarting play to prevent a review.

Once the review is initiated, the referee has the option to:

- make a decision based only on the information received from the VAR or
- review the footage directly before making a final decision (on-field review – OFR)

OFRs will be mainly for ‘subjective’ decisions or to assist match control or to ‘sell’ a decision. An OFR should not be needed for factual decisions such as the position of an offence or player (e.g. offside), point of contact on the body for handball or a foul, ball out of play etc.

The referee can watch footage in normal speed &/or in slow motion but, in general, slow motion replays should only be used for ‘point of contact’ for physical offences and handball; normal speed should be used for the ‘intensity’ of an offence or to decide if a handball was ‘deliberate’. The other match officials will not review the footage unless asked to do so by the referee.

For red card offences (except DOGSO), only the incident is reviewed. For goals, penalty incidents and DOGSO offences, the referee can review the play as far back as the start of the attacking move which led to the incident and, if relevant, how possession of the ball was gained at the start of that phase of play. The Laws of the Game do not allow restart decisions (corner kicks, throw-ins etc.) to be changed once play has restarted, so they can not be reviewed.

At the end of the review process, the referee will make the final decision and will clearly indicate the outcome of the review, take/change/rescind any disciplinary action (where appropriate) and ensure the correct restart of the game.

Whilst the review process should be completed as efficiently/quickly as possible, accuracy is more important than speed. Players and team officials must not attempt to influence or interfere with the review process. A player who shows the TV sign will be cautioned (YC); anyone entering the referee review area (RRA) will be cautioned (YC) (player/substitute) or dismissed (team official).

A match is not invalidated because of:

- malfunction(s) of the VAR technology (as for goal line technology (GLT))
- wrong decision(s) involving the VAR (as the VAR is a match official)
- decision(s) not to review an incident
- review(s) of a non-reviewable situation

Referee education

Considerable time and resources will be needed to educate referees and VARs to use the VAR system effectively, especially when under pressure in key or complex match-changing situations. This education will be of fundamental importance to the VAR experiment. The education will aim to develop an efficient review process to:

- achieve a high level of accuracy in determining whether a decision/incident will be reviewed and in the 'final' (post-review) decision
- minimise the time taken for the review, without sacrificing accuracy

Analysing the data

The IFAB has appointed KU Leuven (Belgium), a university with considerable referee/football experience, to gather and analyse the experiment data. However the developed research scope and the results of the analysis will be peer reviewed by two additional universities before they are presented to The IFAB.

Decision time-line

The IFAB hopes to make a decision about VARs in 2018, or in 2019 at the latest.

3. Reviewable decisions

Match officials make hundreds of decisions in every match, including decisions that an offence has not occurred. It would be impossible, without completely changing football, to review every decision. Based on the initial work and recommendations by KNVB and feedback from stakeholders and The IFAB's Advisory Panels, The IFAB AGM approved three main categories of 'game-changing' decision as well as one 'administrative' as the only decisions¹ to be included in the VAR experiments. Thus, the experiment limits the use of VARs to 4 categories of decision/incident:

a. Goals

- offside: position and offence
- offence by the attacking team in the build-up to the goal
- ball out of play prior to the goal

b. Penalty decisions

- penalty kick incorrectly awarded
- penalty kick offence not penalised
- free kick awarded to the attacking team and there is doubt whether it occurred inside or outside the penalty area
- offence by the attacking team in the build-up to the penalty incident
- ball out of play prior to the penalty incident

c. Red card incidents

Reviews are limited to 'direct' sending-off offences and not a 2nd caution (YC):

- the referee suspects that a potential sending-off offence has been missed or not clearly seen by the match officials
- the VAR observes an undetected sending-off offence
- the referee judges a player to have committed an offence which may be a sending-off for denying an obvious goal scoring opportunity (DOGSO) or a yellow card for stopping a promising attack

d. Mistaken identity

- If the referee cautions or sends off the wrong player (including from the wrong team), or is unsure which player to sanction; the VAR will assist the referee, proactively where possible, so the correct player can be disciplined.

The VAR can be used in all these situations if the referee gives a decision, allows play to continue or if a serious incident is 'missed' i.e. not seen by the match officials. The referee will ALWAYS make a decision (except a 'missed' incident) which will ONLY BE CHANGED if the review shows a CLEAR ERROR i.e. 'was the decision clearly wrong?'

¹ Should, during the experiments, it become evident that the decisions listed above should be reduced or expanded, The IFAB may consider amending for potential future implementation.

4. Scope of the experiment

The principle aim of *'minimum interference – maximum benefit'* is to avoid matches being constantly interrupted by reviews, but when they are clear errors in match-changing situations are corrected. This means that for the duration of the experiment, 'lines' have had to be drawn to define, and thus restrict, the extent of VAR use.

Inevitably, wherever a line is drawn, there can be arguments to move it. One aim of the two-year experimental period is to determine whether the 'lines' are in the correct place.

The following explains why certain decisions/processes have been excluded:

- **Why are coaches not allowed to request a review?**

In principle, there is no need for a coach to request a review because the VAR system is for 'clear errors' and it is highly unlikely that a coach would see a clear error that had not been detected by the VAR.

In addition, during the consultations, coaches and players felt strongly that coach reviews were not desirable as they would probably be used mainly for (often unsporting) tactical reasons.

- **If a (direct) red card is a match-changing situation, why can a 2nd yellow card (YC) not be reviewed?**

If a 2nd YC could be reviewed there would be a strong argument for the 1st YC to be reviewed. This would then require every YC to be reviewed which would logically mean that every potential YC incident would have to be reviewed, including when a referee, possibly wrongly, does not issue a YC – this would result in far too many interruptions to the game (e.g. the 2016 EURO Final had ten YCs and a number of other possible YC situations).

- **Why are re-start decisions not reviewed e.g. a wrongly awarded corner kick from which a goal is scored?**

The Laws of the Game state that the referee cannot change a decision once play has restarted. In addition, the situation above would require every restart decision to be reviewed just in case a goal resulted from the next phase of play – this would result in far too many interruptions to the game.

5. Review process

5.1 General (see also: <http://quality.fifa.com/en/var>)

To ensure that the VAR does not impact on the referee's general decision-making and is only used for incidents/decisions defined in the protocol, the referee should:

- **FORGET** about the VAR **BEFORE** giving a decision
- **REMEMBER** the VAR **AFTER** giving a decision

This means that the **referee (and other match officials) should make decisions as if there was no VAR** – they should not 'take risks' thinking that the VAR could 'save' them.

However, once a decision has been given in a 'reviewable' situation, **the referee must remember that the VAR may need time to check the decision/incident**, so the referee should be ready to **delay the restart** to allow the VAR to complete this process (VARs should proactively alert referees to situations where a review may be required).

The VAR will watch the game on TV screens in the video operation room (VOR) which may be in/near to the stadium or in a more central location (e.g. match centre). For integrity/transparency/credibility, the VAR, assisted by (a) neutral replay operator(s) (RO), must have independent access to, and replay control of, all broadcast feeds so any review uses the same footage as that which may be seen on television. The review process should be controlled by the competition/match organiser. **The integrity of the VAR system would be undermined if the broadcaster could show footage not available to the VAR/referee which contradicts the VAR/referee decision.**

The VAR, will automatically 'check' if a potential clear error has been made in a match-changing situation or if a serious incident/offence has been missed. If no review is needed, then communication with the referee is not necessary – this is a 'silent check'.

If a 'check' indicates that an incident should be reviewed, the referee should be informed immediately. In addition, if the referee suspects that a major error may have occurred, or something serious has been missed, a review can be requested.

Only the referee is permitted to initiate a review – other match officials (especially the VAR) may recommend a review but only the referee will decide whether to have a review and the outcome of that review. The referee may decide that the match officials have clearly seen the incident and therefore no review is needed.

If the referee wants a review when play has not stopped, the referee will stop play as soon as it is in a 'neutral zone/**situation**' (area/situation) i.e. when neither team has a good attacking possibility.

If the referee needs to delay the restart of the match whilst the VAR is completing a 'check' (i.e. before moving to the review stage) the referee **must** make the reason for the delay clear by pointing to the earpiece.

The referee must clearly indicate that the review process has been initiated by visually showing the outline of a TV screen; a decision can not be changed unless the review signal has been shown. The restart of play must be delayed until the end of the review; referees must prevent the 'offending' team/player restarting play to prevent a review.

Once the review is initiated, the referee has the option to:

- make a decision based only on the information received from the VAR or
- review the footage directly before making a final decision (on-field review – OFR)

An OFR should not be needed for factual decisions such as the position of an offence or player(s) (e.g. offside), point of contact on the body for handball or a foul, ball out of play, goal/no goal. OFRs will be mainly for 'subjective' decisions or to assist match control or to 'sell' a decision.

Review steps (summary):

- **Step 1** - the referee informs the VAR, or the VAR recommends to the referee (usually based on a 'check'), that a decision/incident should be reviewed
- **Step 2**² - the video footage is reviewed by the VAR who advises the referee what the video shows
- **Step 3** - the referee accepts the information from the VARs and takes the appropriate action/decision or decides to review the video footage in the RRA before taking the appropriate action/decision

Technological devices (operated by a review assistant (RA) who must be 'neutral' in respect to the competing teams) will be available in the referee review area (RRA) (usually near the fourth official and/or potentially on the other side of the field of play and/or behind the goal lines) which the referee can use to review footage directly.

The VAR will recommend the best camera angle(s) and replay speed(s) but the referee can request different speed(s) and angle(s) e.g. camera from behind the goal for an offside affecting the goalkeeper's line of vision. To facilitate this process, where possible, camera angle names/titles should be agreed pre-match and these names/titles should be visible on the screens in the VOR and RRA.

² There will be occasions where, to reduce time, Step 2 may be omitted; VARs should be ready to recommend an OFR to the referee.

Experience has shown that there should only be footage from one camera angle on the screen in the RRA as it is not easy for the referee to focus on, and quickly assess, a situation/decision when there is a 'split' screen with 4 different camera angles. If necessary, the referee can ask for additional/different angles

The referee can watch footage in normal speed &/or in slow motion but, in general, slow motion replays should only be used for 'point of contact' for physical offences and handball; normal speed should be used for the 'intensity' of an offence or to decide if a handball was 'deliberate'. The other match officials will not review the footage unless asked to do so by the referee.

For red card offences (except DOGSO), only the incident is reviewed. For goals, penalty incidents and DOGSO offences, the referee can review the play as far back as the start of the attacking move which led to the incident and, if relevant, how possession of the ball was gained at the start of that phase of play. The Laws of the Game do not allow restart decisions (corner kicks, throw-ins etc.) to be changed once play has restarted, so they can not be reviewed.

Other match officials will not review the footage in the RRA as the referee should have the knowledge and skills to make the decision, including for offside as 'position' is factual and referees are already involved in 'offence' decisions. However, the referee may, in exceptional circumstances, ask a match official to assist with reviewing the footage (e.g. if that match official was involved in the incident being reviewed). In general, the responsibility of the other match officials will be to monitor/manage the players/technical areas etc.

Players and team officials must not attempt to influence or interfere with the review process. A player who shows the TV sign will be cautioned (YC); anyone entering the RRA will be cautioned (YC) (player/substitute) or dismissed (team official).

Whilst the review process should be completed as efficiently/quickly as possible, accuracy is more important than speed.

At the end of the review process the referee will clearly indicate the outcome of the review, take/change/rescind any disciplinary action (where appropriate) and ensure the correct restart of the game. If the referee changes or rescinds/cancels any disciplinary action it is very important that **this is made very clear to everyone** (other match officials, players, coaches, spectators etc.). This is especially important where a player has a caution (YC) rescinded/cancelled and then receives a caution (YC) later in the game and is not sent off as this risks causing confusion, criticising, and controversy.

In principle, a match is not invalidated because of:

- malfunction(s) of the VAR technology (as for goal line technology (GLT))
- wrong decision(s) involving the VAR (as the VAR is a match official)
- decision(s) not to review an incident
- review(s) of a non-reviewable situation/decision

An important aim of the education will be to develop an efficient review process to:

- achieve a high level of accuracy in determining whether a decision/incident will be reviewed and the 'final' (post-review) decision
- minimise the time taken for the review, without sacrificing accuracy

5.1.1 What is the difference between a 'check' and a 'review'?

There is an important distinction between a 'check', which is automatically undertaken by the VAR, and a 'review' which is undertaken initially by the VAR but may also be undertaken by the referee in the RRA.

The VAR carefully watches footage of the match and if a decision/incident occurs which potentially falls into one of the 4 review categories, the VAR will 'check' the accuracy of the decision and/or whether anything significant has been missed by the referee (or other match officials). This automatic 'check' process is important because:

- it prevents the referee from being distracted/concerned that something important has been missed
- a major reason for not allowing coaches to request reviews is that everything is automatically 'checked' by the VAR

The VAR 'check' must always be based on the fundamental philosophy that reviews are only for 'clear errors' in match-changing situations or serious 'missed incidents/offences' (+ mistaken identity). The ability of the VAR to identify a potential 'clear error' will be fundamental to the accuracy and speed of the review process.

Sometimes, it may be beneficial for the VAR to inform the referee that a 'check' is being undertaken of a match-changing incident. When there is the possibility that a 'check' may become a 'review' the VAR must advise the referee to delay the restart of the game.

If a VAR 'check' indicates that an incident should be subject to a 'review', the referee should be informed immediately. If no review is needed then the VAR does not normally need to communicate with the referee – this is known as a 'silent check'. However, there may be occasions where the VAR judges that the referee (or other match official) will benefit from, or appreciate, confirmation of the correctness of a decision, or that nothing serious 'off the ball' has occurred/been missed.

5.1.2 Who can initiate a review?

The VAR watches the match and whenever a decision/incident occurs which falls into one of the review categories and it seems likely that a clear error has been made (or something serious has been missed), the referee will be informed. In addition, the referee may suspect that something significant has been ‘missed’ or a clear error may have occurred. In either circumstance the referee can decide that:

- the match officials have clearly seen the incident and no review is needed, *or*
- a decision can be taken based solely on the information from the VAR, *or*
- the referee wishes to undertake an OFR before making a final decision

All on-field match officials and the VAR, AVAR, RO (and ideally the RA), are connected via a communication headset system during the entire match. Assistant referees, fourth officials, AARs and VARs can recommend to the referee that a decision/incident should be reviewed but only the referee can initiate a review.

5.1.3 When can a review take place?

A review can take place when play is stopped, provided that the referee has not permitted play to restart. Whenever there is the possibility of a review, **the restart of play must be delayed** – this will sometimes require the VAR to be quick to warn the referee of the possibility of a review so the referee can delay the restart. In particular, referees must prevent an ‘offending’ team/player attempting to restart play to prevent a review.

If the referee needs to delay the restart of the match whilst the VAR is completing a ‘check’ (i.e. before moving to the review stage) the referee should make the reason for the delay clear by pointing to the earpiece. **The use of the ‘pointing to the earpiece’ signal is an official signal which should be used in all cases where the referee delays the restart of play to communicate with the VAR.**

In circumstances where the game continues, play can be stopped by the referee for a review but only when it is in a ‘neutral zone/*situation*’ i.e. neither team has a good promising attack; if a team is in a good attacking situation or a goal-scoring position, play continues until it is in a neutral zone/*situation*.

5.1.4 How is a review communicated **by the referee**?

When a review is requested by the referee directly, or following information from the VAR, the referee will clearly indicate that the review process has been initiated by outlining the shape of a TV screen with both hands.

If the referee decides to review the footage in the RRA, this should also be clearly communicated, particularly to the players.

5.1.5 Where does the review take place?

During the initial stage of the review, when the VAR is studying the footage, the referee should (as far as possible) take a position away from the players which allows most/all of the players to be kept in view.

When choosing the best position, the referee should consider the potential benefit of:

- being close to a match official who may also have viewed the incident
- being close to the likely location of the post-review restart
- moving towards the RRA in preparation to review the footage directly and to reduce the time taken by the review

If the referee decides to review the footage directly (OFR), the referee should go immediately to the RRA which must be a 'private area' where the footage can be viewed and the monitor is protected from the weather, the ball, thrown items etc. The RRA must be clearly marked as only the referee and RA are permitted to enter this area.

For reasons of transparency and integrity (i.e. to demonstrate that no one has influenced the review process) the RRA must be visible (not a room in the players' tunnel etc.) and, as far as possible, the referee should remain visible throughout the process. Ideally, there should be no media/broadcast microphones or cameras positioned in/near to the RRA.

No one is allowed to enter the RRA at any stage - any player who does so will be cautioned (YC) and any team official dismissed from the technical area. The home club/competition organisers must provide sufficient stewarding/security to prevent players/team officials/cameramen etc. entering the RRA.

5.1.6 Who takes part in the review?

Only the VAR and referee view replay footage unless, in exceptional circumstances, the referee decides that one of the other match officials should also view the footage (e.g. an official directly involved in reporting an incident to the referee). There must be a review assistant (RA) (not the fourth official) in the RRA to help the referee during an OFR; the RA's main responsibility will be to load and play footage recommended by the VAR or requested by the referee.

5.1.7 What do the other match officials do during the review?

During the review, the other match official must monitor/manage the players and technical areas according to the referee's pre-match instructions. In principle:

- the 4th official will monitor the technical areas
- the ARs (and AARs if appointed) will monitor the players in their half of the field
- one of the ARs (or AARs) records the time taken for each review (from the time the referee gives the TV signal until play re-starts)

- all match officials should remain aware (and ready to advise the referee) of the location of the restart, especially if the referee stopped play for a review
- all on-field match officials should remain silent (as far as possible) to avoid interrupting/distracting the referee-VAR communication

5.1.8 What do the players and officials do during the review?

The players and team officials must behave responsibly and must not:

- attempt to influence the referee's decision to review an incident or to view footage directly
- interfere with the referee's movement to/from the RRA or to/from the position of the restart after the final decision
- enter or approach the RRA – any player who enters the RRA must be cautioned (YC) and any team official who enters the RRA must be dismissed from the technical area
- contest the referee's final decision

5.1.9 What principles must the referee follow during the review?

The referee will follow the principles that:

- a decision/incident which is not one of the 'match-changing' definitions cannot be reviewed
- a decision can only be changed if the footage shows a 'clear error' (or that a serious offence/incident has been missed) – the question is not 'was the decision correct?' but '**was the decision clearly wrong?**'
- a factual decision e.g. position of an offence, position of player(s) for offside, point of contact (foul/handball), ball out of play or goal/no goal can usually be made based only on the information from the VAR i.e. no on-field review (OFR) needed
- OFRs should be used mainly for 'subjective' decisions unless the referee decides that an OFR will assist match control/player management or will help 'sell' a decision
- the referee and VAR should be alert to the possibility of an offending team/player trying to restart the game quickly to prevent a review. **If the referee thinks a review might be necessary, the restart must be delayed** to give time for the VAR to 'check' the decision/incident. Equally, VARs should be proactive and advise the referee if there is a real possibility of a review so that the restart can be prevented
- only the referee and RA are allowed in the RRA (in exceptional circumstances the referee may invite another match official into the RRA)
- the referee can watch footage in normal speed &/or in slow motion but, in general, slow motion replays should only be used for 'point of contact' for physical offences and handball; and normal speed for the 'intensity' of an offence or to determine if a handball was 'deliberate'
- whilst the review process should be completed as efficiently/quickly as possible, accuracy is more important than speed

5.1.10 How is the outcome of the review communicated?

The referee will visually indicate whether or not the original decision has been confirmed and then clearly indicate how the match will restart. The referee should consider the benefit of communicating the final decision verbally to the team captains. The referee must, as appropriate, take, change or rescind any disciplinary action.

Competitions will need to decide what information is communicated in the stadium (and to the media) **before the match**, during a review and once a final decision is made. **It is very strongly recommended that, as a minimum, a message appears on the stadium screen announcing that a review is taking place.** This may also involve messages/images or potentially footage of the VOR appearing on screens in the stadium. Very careful consideration should be given to whether, within existing competition protocols, replay footage is shown as this may cause negative reactions, security issues etc. especially where the incident/decision is not clear-cut. **In principle, replays of incidents which are or have been reviewed should not be shown on screens in the stadium.**

5.1.11 How does play restart after the review?

Once the referee has reached a final decision, the match must be restarted as follows:

- if a decision is not changed, play restarts according to the original decision
- if a decision is changed or a 'missed' offence is identified, play restarts with the correct restart for the 'new' decision.
- if play was stopped for a review and the original decision is not overturned, play restarts with a dropped ball where the ball was when play was stopped

5.1.12 What about the time taken for a review?

The referee must make full allowance for the time taken for each review; this will be from the time the review was signalled until play restarts.

It is recommended that one of the match officials other than the referee and 4th official (who will monitor/manage the technical areas and RRA), is assigned the responsibility of recording the time taken for each review; this will usually be AR2.

5.1.13 What disciplinary action can the referee take/change based on a review?

The referee must take the correct disciplinary action against players and team officials for any offences identified/confirmed by the review process. This includes:

- changing disciplinary action taken or indicated before the review including:
 - rescinding (cancelling) disciplinary action wrongly taken
 - changing a caution (YC) to a sending-off (RC)
 - changing a sending-off (RC) to a caution (YC)
 - changing a caution or sending-off from one player to another (mistaken identity)

- taking the appropriate disciplinary action, including cautions (YCs), for any offence not originally seen but which is clearly identified by the review

Examples of situations where, as a result of the review process, the referee must apply the correct disciplinary sanctions include:

- where a review for a potential sending-off (RC) offence or missed incident clearly shows that the offence only requires a caution (YC), including if it is a 2nd YC
- where a review for a penalty incident clearly shows that the attacking player was guilty of simulation - the offending player must be cautioned (YC)
- where a disciplinary action has been taken against the wrong player (including disciplinary action resulting from the wrong player/team being penalised)

If the referee changes or rescinds/cancels any disciplinary action it is very important that **this is made very clear to everyone** (other match officials, players, coaches, spectators etc.). This is especially important where a player has a caution (YC) rescinded/cancelled and then receives a caution (YC) later in the game and is not sent off as this risks causing confusion, criticising, and controversy.

5.1.14 Decisions incorrectly reviewed/technology malfunction/disciplinary action

Competitions must state clearly in their competition rules that a match is not invalidated because of:

- malfunction(s) of the VAR technology (as for goal line technology)
- wrong decision(s) involving the VAR (as the VAR is a match official)
- decision(s) not to review an incident/decision
- review(s) of a non-reviewable incident/decision

Competitions/governing bodies should ensure their disciplinary procedures account for decisions relating to a caution (YC) or sending-off (RC) involving the VAR.

5.2 Review timelines

It is important that the opportunity to correct clear errors does not over-intrude into the match. This is particularly important when defining the period of play prior to and after a reviewable incident has occurred.

5.2.1 What phase(s) of play can be reviewed?

One of the aims of the experiment will be to establish for how long 'before' an incident play can be reviewed i.e. is there a point at which the review period can start? Equally, it will be important to establish how long after an incident a decision can be reviewed.

The Laws of the Game define the maximum period before and after an incident during which a decision can be changed because the Law 5 states that *'the referee may not change a decision on realising it is incorrect (...) if play has restarted (...)'*. This means that a restart decision cannot be changed once the game has been restarted e.g. if a corner kick is taken even if a goal results and TV replays show that it should have been a goal kick, the original goal kick/corner kick decision cannot be changed. The same is true for all restarts: throw-in, free kick etc. If, after a reviewable incident, play stops and is restarted then no review is permitted (except for direct sending off offences).

Whilst it might seem 'unfair' that a goal results from a wrongly awarded corner kick or attacking throw-in, if the corner kick/throw-in decision could be changed then logically a goal that resulted from an incorrect goal kick or a defensive throw-in would also have to be changed. As it would be wrong to wait for a goal to be scored before checking a throw-in or corner kick (because this would lead to a great deal of frustration/anger from the players, team officials, fans etc. of the team that scored the goal) it would be necessary to review every goal kick, corner kick and throw-in decision in case a match-changing situation results.

In addition, an incorrectly taken restart (e.g. ball moving at a free kick, foul throw-in etc.) which ultimately leads to a goal or penalty incident cannot be reviewed as this is not a 'match-changing' decision and it should be detected by the match officials.

Within the limits imposed by the Laws of the Game, this protocol identifies restrictions on the period before/after an incident/decision which can be included in a review. These restrictions may be modified after the early testing phase and The IFAB might give a competition permission to use modified restrictions.

5.2.2 How far before a decision can the play be reviewed?

The period before an incident which may be included in the review will vary according to the category of the incident.

5.2.3 Red card (except DOGSO) + mistaken identity

- only the incident is reviewed

5.2.4 Goal, penalty incident or DOGSO

There are 4 potential starting points for the review:

- when and how the attacking team last gained possession of the ball
- the start of the attacking move which directly ended in the goal/penalty incident
- when the ball entered the defending team's half of the field of play
- a maximum period of time prior to the incident

In principle, there could be a combination of some of the above but The IFAB experiment protocol uses the 'attacking possession phase' concept which combines 2 starting points.

‘Attacking Possession Phase (APP)’

Consultations with football stakeholders suggest that football would expect that only the phase of play leading up to a goal/penalty incident/DOGSO should be reviewed i.e. from the point at which the attacking team last gained possession of the ball and started the phase of play that led to the goal/penalty incident.

A major underlying principle is that until the attacking team gained possession of the ball, their opponents had the ‘freedom’ to use the ball and thus any ‘missed’ event before they lost possession could have been avoided. This concept is similar to the normal football situation where a defender has time to clear the ball but instead attempts a pass to another defender which is intercepted by an attacker who then scores – the defender had possession and could have prevented the error which led to the goal.

‘attacking phase possession (APP)’ will require the referee (assisted by the VAR) to determine:

- the point at which the attacking team gained possession of the ball *and then*
- the point at which the phase of play that led to the goal/penalty incident started

‘gaining possession’

The attacking team will be considered to have gained possession when they:

- take a restart *or*
- take possession of the ball from ‘open play’ (when neither team has possession) *or*
- take possession of the ball when it is ‘lost’ by the opponents (e.g. poor pass, clearance etc.) *or*
- gain possession as a result of a challenge for the ball with an opponent

The following are not considered a clear gain of possession:

- a save, deflection or rebound that does not result in control of the ball
- a clearance that does not reach or is not controlled by a team mate

Where the attacking team gained possession as a result of an offence or infringement of the Laws of the Game, the goal or penalty kick under review can only be overturned if the referee made a clear error in failing to penalise the offence/infringement.

Consequently, a goal/penalty kick can only be changed if the referee made a clear error by failing to penalise a Law 12 offence which resulted in the attacking team taking possession of the ball:

- in ‘open play’ *or*
- when it is ‘lost’ by the opponents *or*
- as a result of a challenge for the ball with an opponent

Restarts are not reviewed because The Laws of the Game do not permit a restart decision to be changed once play has restarted. Incorrect restarts are not reviewed because they are not match-changing situations and should be detected by the match officials.

The VAR will assist the referee to establish the APP but if the ball travels beyond the camera's view the referee and other match officials will make the 'possession' decision.

'attacking phase'

Defining the point at which the 'attacking phase (move)' starts will be subjective but should include deciding:

- the point at which the attacking team advanced with the ball towards their opponents' penalty area and, if the attacking team has a long period of 'keep ball' possession, the point at which they either cross the halfway line (for 'keep ball' in their own half) or, if 'keep ball' is in their opponents' half, the point at which a clear forward/attacking phase of play starts

Judging 'attacking possession phase' will require co-operation between the referee and VAR, and potentially with ARs (and AARs). This concept will be further defined during the education phase using footage and simulated on-field situations. It will require the VAR and referee to adopt a 'what would football expect?' approach and apply the principles and their knowledge and experience to differentiate between 'denying an obvious goal-scoring opportunity' and 'stopping a promising attack'.

APP effectively 'resets' the starting point for the reviewable phase of play prior to a goal or a penalty incident.

5.2.5 How long after a decision/incident can play be stopped for a review?

The period of time after an incident occurs when a review can be initiated must be limited to avoid other significant events taking place and then being overturned.

If play has stopped and a reviewable incident may have occurred, the referee must not permit the restart to be taken until a decision to review or not has been made.

If play continues and the referee suspects something important has been missed or the VAR recommends a review, the referee must stop play as soon as it is in a 'neutral zone/situation' i.e. neither team is in a good attacking position.

As Law 5 does not allow the referee to change a decision once play has restarted, so if play stops after a potentially reviewable incident/offence and play restarts, no review is permitted except for 'missed' red card offences (except DOGSO and 2nd YC offences).

For direct sending-off offences and mistaken identity (wrong player cautioned or sent off) there is no time limit for the disciplinary action but if play has stopped and restarted before the disciplinary action can be taken, the restart for the offence is not applied.

5.3 Footage used for reviews

The efficient selection of the best video footage (angles and replay speed) will significantly affect the accuracy, speed and acceptance of a review. Whilst the referee has ultimate control of the decision-making process, the VAR, RO and RA have important roles to play.

As part of the pre-match preparation, the referee, VAR, RO and RA should agree the names/titles of the different camera angles and, where possible, these names/titles should be visible on the screens in the VOR and RRA.

5.3.1 Who decides what footage is reviewed?

The initial selection of the best camera angle(s) and replay speed(s) will be undertaken by the VAR who will explain to the referee the basis for the recommended footage and what it shows.

If the referee decides to view the footage directly, the VAR will recommend the most appropriate angle(s) and speed(s) but the referee may request different/additional angle(s) or speed(s).

Experience during the trial matches showed that the OFR operates best when the referee has the footage from only one camera angle to review. It is not easy for referees, who have been using mainly medium and long distance 'sight', to focus on a TV screen, especially if there a several different replay angles being shown at the same time. If the referee requires, or the VAR recommends, an additional angle then this can be provided but usually not as a 'split screen'

5.3.2 Who operates the equipment for the VAR?

There will be at least one RO sitting with the VAR (depending on the number of available camera feeds) to assist with selection and loading of footage; as VARs become more experienced in using the equipment, they may be able to self-select the footage. The role of the RO will be particularly important when there are multiple incidents or several incidents occur in quick succession.

The relationship between the VAR and the RO is an important and complex one. Whilst the RO is not part of the decision-making process, the RO has a responsibility to help the VAR (and ultimately the referee) make the correct decision. The RO should 'guide' the VAR to the best angles and, where the RO believes that the VAR may benefit from looking at

another/different angle (especially if it shows something that the VAR appears not to have seen/recognised) the RO must ensure the VAR is aware of this particular footage/angle.

5.3.3 Who operates the equipment for a review by the referee?

There will be an RA in the RRA to operate the equipment so the referee can concentrate on viewing the footage and, where appropriate, request specific angle(s), speed(s) etc.

5.3.4 What speed is used for reviews?

Footage can be viewed by the VAR and referee at normal speed or in slow motion. In principle, to ensure accuracy of judgment:

- slow motion replays should only be used for ‘point of contact’ for physical offences and handball
- normal speed should be used for the ‘intensity’ of an offence or to determine if a handball was ‘deliberate’.

5.3.5 Graphics

Graphics (e.g. offside lines) should only be used if the methodology is accurate and the competition has confirmed that the technology provider or production team meets minimum specification standards. It is particularly important that the graphics (especially for offside) are accurate and take full account of the requirements of the Laws of the Game.

There should only be one provider of the graphics so that those used by the VAR and referee are the same as those seen by the television viewers, and the participants. This should prevent discrepancies that could bring the final decision into question.

5.4 Location and role of the Video Assistant Referee (VAR)

The VAR is located in the VOR which is in, or close to, the stadium or at the TV broadcast centre; whatever the location, the VARs must have independent access to, and replay control of, all broadcast camera feeds; the VAR must also have direct and instant contact with the referee, RO, Assistant VAR (AVAR) (or 2nd VAR) and RA.

The VAR is a match official (e.g. like an additional assistant referee) and will be in constant contact with the referee using the referee team’s communication system; to avoid distracting the match officials, the VAR will use a push button to activate the microphone.

The prime role of the VAR is to ‘check’ the play throughout the game and inform the referee when there is the possibility that a reviewable incident has occurred. The VAR works under the direction of the referee to ensure a clear error in a match-changing decision is corrected or a serious unseen incident is dealt with.

For integrity and transparency, and to provide an education and development resource, the VOR and the consultation process will be filmed (including sound). This footage will not be made available except for education of referees/VARs or if there is a question about the transparency/integrity of a particular match/consultation/review.

It will be important for VARs to become competent using the replay equipment so they can select replay angles/speeds etc. themselves which will:

- speed up the review process
- enable the VAR to undertake a check or assist with a review so that the RO can 'tag' any potentially reviewable incident which occurs whilst the VAR is undertaking a check or review. Such skill will prevent the need for 2 VARs

Assistant VAR (AVAR) – the early trial matches have shown the need for a second person in the VOR to assist the VAR; this could be a 2nd VAR or, more likely, an Assistant VAR. Their role would be to help the VAR as much as possible, in particular:

- watching the match on the screen while the VAR and RO are undertaking a check or a review and, if a potentially reviewable incident occurs, 'tag/mark' the situation
- keeping a record of all disciplinary action and all reviewable incidents (and whether or not they were reviewed and the nature and outcome of the review) so the VAR can concentrate on watching the game
- communicating the outcome of a review to the broadcasters (using the agreed phraseology etc.) except where this is a responsibility assigned to someone else by the competition organiser

The AVAR does not need the same level of refereeing experience and qualifications as the VAR.

6. Communication between Referee and VAR

6.1 General

Effective communication between the referee and VAR (and other key personnel e.g. ROs and RAs) will be essential and protocols will, as far as possible, ensure high quality communication that minimises errors or misunderstandings.

It will be important to establish communication protocols, language and phrases, and means of starting and ending phases of information exchange. The IFAB will give guidance but the exact communication protocols should be drawn up by each national football association/competition to be consistent with, and reflect, the protocols, language and vocabulary already in use in the match officials' communication systems. Moreover, each country will have its own unique football language and phraseology.

In simple terms, all communication protocols should:

- encourage the referee to lead the conversations
- use language which is simple and clear
- keep the amount of communication to a minimum
- avoid negatives e.g. do not say 'not offside' as there is a risk that the referee does not hear the word 'not'
- use official technical terminology e.g. 'Blue 7 guilty of violent conduct by striking an opponent, Red No.7'
- understand the value and dangers of 'open' and 'closed' questions
- the referee should acknowledge all communication from the VAR (and vice versa) **ideally by repeating the information received to avoid misunderstanding**

The VAR will be on the same communication system as the other match officials but only the referee can communicate directly with the VAR; the AVAR, RO and RA should also be on the same system to facilitate a more efficient review of footage by the referee.

The 'open mic' communication system will allow the VAR **(and RO)** to hear exchanges between the other match officials so that if, for example, the AR informs the referee that a player is in an offside position when a goal is scored but the AR does not know if that player is interfering with the line of vision of the goalkeeper, the VAR can start to 'check' the situation in readiness for a potential review request or to inform the referee if a clear error appears to have occurred.

The VAR should use a 'push-button' to activate the VAR's microphone so discussions between the VAR and the RO/AVAR are not overheard by, and do not distract, the referee and match officials. It is important that the VAR's mic only operates when the button is pushed and held so that it does not remain 'open' once the conversation/communication is over as this can lead to confusion and, potentially, an incorrect decision.

In the same way that match officials already exchange information during a match, the VAR will inevitably become part of that exchange. This will ultimately make the 'check' and 'review' processes more efficient and probably faster. Whilst not part of the formal review process, it is inevitable (and to the game's benefit and the referee's decision-making) that the VAR occasionally gives the referee information about particular situations.

All communication between the VAR, referee, RA and other match officials must be clear, courteous and non-emotional. It is extremely important that the VAR's style of communication is not over-strong or aggressive. Equally, the referee must not be discourteous or dictatorial to the VAR. Professional conduct at all times is vital if the communication is to be effective in producing the correct outcome.

6.2 Checks

Checks by the VAR will be an on-going process and may or may not lead to a recommendation to the referee for a review. In principle, the VAR does not need to inform the referee every time a check is taking place – this is a 'silent' check.

However, if the VAR believes that a check may result in a review, the VAR should immediately inform the referee so that, if appropriate, the referee can delay the restart of the match. The VAR should communicate the following information to the referee:

- a 'check' is taking place
- the incident/offence being checked (specific information where possible)
- the player(s) and team involved
- the location/time of the incident

For example, "*check for possible handball by Blue 8 prior to goal being scored*"

If the referee needs to delay the restart of the match whilst the VAR is completing a 'check' (i.e. before moving to the review stage) the referee **must** make the reason for the delay clear by pointing to his earpiece.

Once the check has been concluded, the VAR will communicate the outcome to the referee which will either be that no reviewable offence/incident has been observed or the recommendation that the incident should be reviewed, e.g.:

- 'Check shows that no offence/incident has occurred/been missed', *or*
- 'Check indicates a clear handball offence by Blue 8 – review recommended'

6.3 Review communication steps

The review process will require 3 communication steps:

Step 1 - the referee informs the VAR or the VAR recommends to the referee that a decision/incident should be reviewed

Communication between the referee and VAR should quickly establish exactly which incident (s)/offence(s) is **being checked and might** be reviewed. The referee must clearly give the 'earpiece' or TV signal and inform the players that the game can not restart.

Step 2 - the video footage is reviewed by the VAR who advises the referee via headset what the video shows

Communication from the VAR to the referee should be confined to facts describing accurately what the footage shows. The referee should initially request clarification of facts before requesting any opinion from the VAR. If the VAR believes that the referee should view the footage (i.e. an OFR) then this should be communicated to the referee as quickly as possible.

NB: There will be occasions when Step 2 can be omitted as this will save time; the VAR should always be ready to recommend an OFR to the referee.

Step 3 - the referee accepts the information from the VARs and takes the appropriate action/decision or decides to review the video footage in the RRA (OFR) before taking the appropriate action/decision

Based on the information from the VAR, the referee will inform the VAR either:

- that a decision will be made without further review of the footage. The referee will communicate the final decision to the VAR so that it can be recorded and, where appropriate, communicated to other parties, *or*
- that the referee has decided to view the footage directly in the RRA (OFR)

For factual decisions and for very clear errors, there should be no need for an OFR.

When the referee decides to review the footage directly, a review must be clearly indicated by using the TV signal; the referee must ensure that play does not restart. Where appropriate, the referee should clearly indicate when an OFR will occur.

The VAR will recommend which camera angle(s) and replay speeds are the best for the referee to use and this will be communicated to the RA by the VAR (unless the RA is part of the match officials' communication system). In principle, the footage available in the RRA is only from one camera angle as it is not easy for referees to focus on and assess an incident/decision when there are multiple angles (split screen).

During an OFR, the VAR should be ready to assist the referee, particularly if further camera angles or different replay speeds are required following the principle that, in general:

- slow motion replays should only be used for ‘point of contact’ for physical offences + handball
- normal speed should be used for ‘intensity’ of an offence or to determine if a handball was ‘deliberate’.

The referee will have to be satisfied (and have the situation confirmed by the VAR) that the protocols relating to whether an incident can be reviewed and the period before/after the incident have been followed.

6.4 Restarting play after a review

All match officials should remain aware (and ready to advise the referee) of what and where the restart should be, especially if the referee stops play for a review.

6.5 Added time

One of the match officials (usually an AR) should be responsible for recording and informing the referee how long a review took (from the TV signal to play restarting) so the referee can make full allowance.

6.6 Best practice - communication

Major League Soccer (The MLS) has undertaken a great deal of work in this communication area. The following sub-sections are ‘best practice’ based on the MLS work and other feedback. As stated at the beginning of this section, communication protocols will need to be tailored for each competition based on existing practices, native language and football/refereeing terminology etc.

6.6.1 VAR <-> Referee communication best practices

VAR communication should provide descriptive, factual and concise accounts of the incident under review and include the following:

- clearly distinguish between ‘check’ and ‘review’ and inform the referee of ‘checks’ according to each referee’s preferences
- confirm the numbers and/or names and team(s) of the players in the incident
- use technical terms - careless, reckless SFP/VC/DOGSO, stopping a promising attack, etc. – as defined by the Laws of the Game when describing an incident
- use facts and paint a picture (i.e.: ‘No excessive force. Incidental or normal contact. Attacker initiates the contact into the defender.’)
- use ‘loop-closing’ terms when finished speaking, such as ‘over’, based on referee preference
- request graphics evenly spaced across turf fields to represent lines normally left by grass cutting machinery to help with offside

- consider adopting military verbiage https://en.wikipedia.org/wiki/Voice_procedure/ (i.e.: 'VAR/name of VAR, I am sending off player # X for YYY Action. Please review. Over.' 'Referee/name of referee, reviewing YYY. Over.')
- when the referee decides not to follow the information/advice of the VAR the referee should clearly state the final decision e.g. the referee decides a foul challenge is SFP but the VAR advises that it is only 'reckless'. If the referee decides to remain with the original decision and send off the player the VAR should be informed (for record-keeping purposes and clarity that there has been no communication misunderstanding) by the referee adopting a phrase such as: 'Thank you for the feedback. I'm still issuing the RC and will be restarting play with a direct free kick.'
- if walkie-talkies are used between the VAR and 4th Official, a three-way conversation must be established whereby the 4th Official reiterates all information communicated from the referee and VAR to their respective counterpart and intended recipient. However, in cases where that cannot be accomplished and/or more information is needed (especially in the case of a major decision as defined by the experience of the referee), the referee should jog over to 4th Official's Table and speak directly with VAR on the walkie-talkie

6.6.2 VAR <-> RO communication best practices

The following relates to communication between the VAR and the RO in the video operation room (VOR) – **important to identify what action/situation is to be reviewed:**

- verbally identify which angle(s) and view(s) the VAR is looking at and what the referee may ask to see
- select best feed for angle and view
- request zoom in or zoom out where applicable and appropriate
- request rewind and forward where applicable and appropriate
- utilise slow motion and 'frame-by-frame' functionality for point of contact only (not for handball or intensity of contact)
- request split screen, especially in cases of offside, in order to capture two images simultaneously that would not be visible in one image otherwise
- over-communicate verbally/with gestures as soon as possible once a check or review is underway

6.6.3 Communication provider best practices

Best Practices for Communication Device Provider and User:

- test wired and wireless connections before the match including those between the referee, ARs, 4th, and VAR(s)
- provide 'listener devices' for the two (2) RAs + ROs; VARs 'In-Training'; engineers; and, for Competition representatives
- walkie-talkies will be supplied for VAR-4th Official communications as a redundancy
- officials must keep mic close to mouth for optimal use
- in pre-match testing, officials should speak forcefully and with a 'field voice'
- if using PTT, officials should delay a second before speaking in order to allow PTT to activate

- VAR must become accustomed to the mechanism used to open and close their mic during direct communication with the referee versus that with the technology provider RA and RO
- designate a 'Communication Video Review Engineer' in charge of liaising with the officials and technology provider, as well as home team Director of Operations and/or Facilities

6.6.4 Video review troubleshooting

If the video review technology fails completely:

- the RO immediately notifies the engineer in charge of production, communications and/or technology
- the VAR notifies the referee and/or 4th by communication device or walkie-talkie.
- the referee (or 4th official) notifies the team officials of both teams that video review is not active and will not be activated for the remainder of the match unless otherwise notified
- if video review becomes active, the VAR should notify the referee and the 4th official should notify the team officials of both teams

If the video review communications fail partially:

- the VAR should use a walkie-talkie to communicate with the 4th official who will notify the team officials of both that any video review will be conducted via walkie-talkie via the 4th official

To be determined:

How production and the in-stadium audience is notified of the various circumstances outlined above

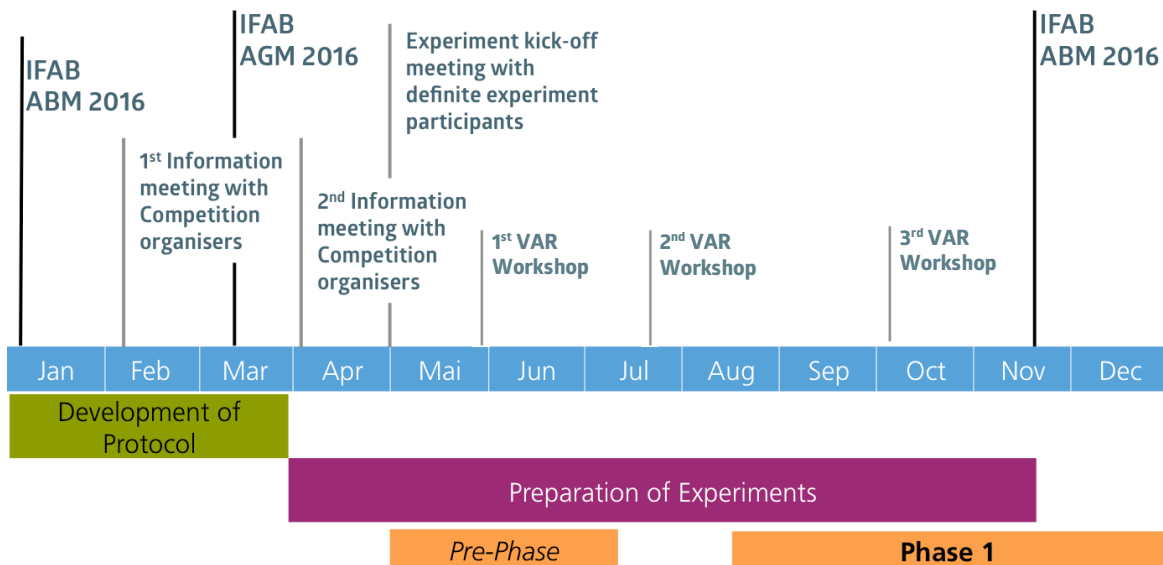
6.6.5 VAR record keeping

The IFAB, in conjunction with the appointed research institute, will determine what records should be kept by the VAR of all potential review situations; these records will be an important data source for the university's analysis and for referee-VAR education

6.6.6 VAR information to broadcasters, stadium announcer etc.

Protocols will be produced relating to how, when and what information relating to individual reviews (notably the outcome) will be communicated to the TV production team (especially the commentators and analysts) and spectators in the stadium. This will usually be the responsibility of the AVAR who will use 'standard' terms for such communication.

7. Experiment timelines



The timeline shows the overall structure of the experiment; individual competitions will follow this structure but have their own timelines, which will be agreed with The IFAB.

Development of protocol (January - April 2016)

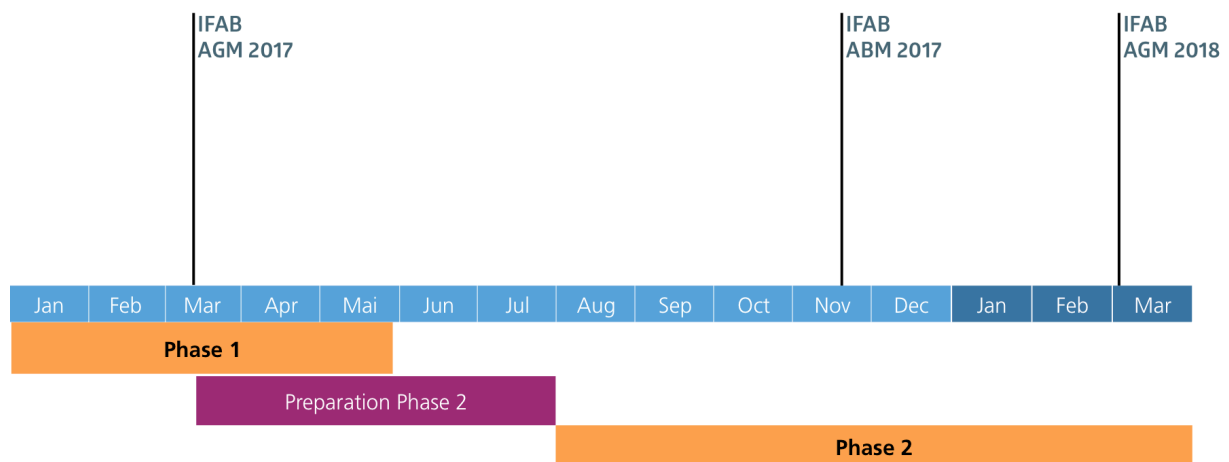
- Meetings and detailed discussions with interested competition organisers
- Market analysis of available technology and meetings with the suppliers
- Presentation of the developed protocols at the TSC, Advisory Panels, ABM and AGM

Preparation phase (March - November 2016)

- Meetings and workshops for participating and interested competition organisers
- Education of referees; selection and education of VARs in close collaboration with The IFAB, the competition organiser/national FA and the technology provider
- Appointment of KU Leuven (Belgium) as research partner
- Development of reporting platform, procedures and documents
- Implementation of offline and online testing of VARs in friendly matches

Experiment Phase 1 (early 2017 – May 2017) – offline and live tests

- Monitoring experiments and potential ‘fine tuning’
- Implementation of reporting
- Weekly/bi-weekly feedback meeting/call with competition organisers
- Monthly feedback from directly involved stakeholders
- Bi-monthly feedback from non-directly involved stakeholders
- Regular updates/feedback from research institution/university



Preparation Phase 2 (March - July 2017)

- Discussions with all involved parties and issuing first reports
- Provision of all required information for IFAB meetings
- Potential modifications of experiments (subject to the decision by The IFAB)
- Review of feedback from KU Leuven – potential modification of protocols/practices

Experiment Phase 2 (August 2017 – March 2018)

- Monitoring experiments and potential ‘fine tuning’
- Implementation of reporting
- Weekly feedback meeting/call with competition organisers
- Monthly feedback from directly involved stakeholders
- Bi-monthly feedback from non-directly involved stakeholders
- Regular updates/feedback from KU Leuven

Preparation of final reports for ABM 2017 (November) and AGM 2018 (March) or a Special Meeting after conclusion of Experiment Phase 2

- Debrief with all involved parties, including research institution/university
- Provision of all required information for IFAB meetings
- Recommendation based on the findings of the experiments

8. Protocol clarifications

8.1 Advantage

If a review reveals a missed penalty kick for Team A, but play has continued and a goal is scored by Team A, should the goal stand?

What about a potential DOGSO in the penalty area in the first minute of the game where a goal is ultimately scored?

*In both cases, the goal stands. **The referee makes decisions as if there was no VAR and teams can not choose between a penalty kick and DOGSO or a goal, even if the former is a better strategic option. If the reviewed penalty offence was a DOGSO sending-off (RC), playing advantage means that the offending player receives a YC.***

8.2 Ball out of play

How should an unseen 'ball out of play' be managed?

If the ball wholly crosses the goal line or touchline it is a 'fact' that it is out of play and play must stop. If the ball goes out of play prior to a goal/penalty incident, the goal/penalty cannot be awarded; play must restart with the correct restart related to the ball going out of play. The ball going out of play does not negate a player being sent off for a direct red card offence (except DOGSO) but the restart relates to the ball out of play.

The VAR should only communicate to the referee that the ball has gone out of play if the subsequent play results in a goal, penalty incident or DOGSO red card.

8.3 Disciplinary action – rescinding cards

If, as the result of a review, a sequence of play is 'cancelled', is the disciplinary action related to that sequence of play rescinded? e.g. a 'not awarded' penalty is subsequently awarded but before play stops a DOGSO occurs in the opposing half of the field.

In principle, any disciplinary action taken remains in force as players should always act within the Laws of the Game, so if a player was guilty of an offence such as serious foul play, a reckless challenge, dissent, offensive language, unsporting behaviour etc. the disciplinary sanction will remain.

However, for a DOGSO or 'stopping a promising attack' offence if the phase of play is 'cancelled' then no promising attack or goal-scoring opportunity existed so any DOGSO/SPA disciplinary action taken should be rescinded.

*If the referee changes or rescinds/cancels any disciplinary action it is very important that **this is made very clear to everyone** (other match officials, players, coaches, spectators etc.). This is especially important where a player has a caution (YC) rescinded/cancelled and then receives a caution (YC) later in the game and is not sent off as this risks causing confusion, criticising, and controversy.*

8.4 Disciplinary action – yellow cards

If during a review, a yellow card offence is identified, can the player be cautioned (YC)?

If during a review for a goal/penalty/red card a clear yellow or red card offence is identified, the referee must take the correct disciplinary action. For example:

- a review for a penalty incident clearly shows that the attacker was guilty of simulation
- a review for a goal clearly shows that an attacker deliberately handled the ball into the goal
- a review for a potential red card for serious foul play, clearly shows that the offence was 'reckless' and not 'serious foul play'
- a review for a potential red card offence during mass confrontation clearly shows other players adopting an aggressive attitude towards an opponent
- a review of a DOGSO offence clearly shows that the offence was (only) 'stopping a promising attack'

The referee cannot initiate a review for a caution (YC).

8.5 Goal scored after a possible penalty at the other end of the field

What happens if there is a penalty incident at one end of the field of play from a possible offside situation but the referee does not award the penalty and the defending team counter-attack and score a goal?

The VAR and referee should first determine whether or not a clear penalty was missed:

- if the referee did not make a clear error by not awarding a penalty, the goal stands (the offside is not penalised as the referee has effectively played advantage)
- if the referee made a clear error in not awarding a penalty kick, the offside situation must then be reviewed:
 - if there was offside it must be penalised (advantage cannot be played and the goal allowed as the 'missed' penalty kick can not be ignored)
 - if there was no offside, the penalty is awarded (and the goal cancelled)

The referee must take the appropriate disciplinary action if the penalty is awarded.

8.6 Goal scored before/during/after a whistle

What happens if a goal is scored before, during or after a 'wrong' whistle by the referee e.g. the AR raises flag for offside and the referee whistles as a goal is scored?

The referee (with VAR assistance if requested) may allow the goal if the whistle was not blown before the ball entered the goal (players should ignore the flag and continue playing).

8.7 Goal scored from an indirect free kick

Does the protocol permit a review to determine if the ball touched a second player before it entered the goal from an indirect free kick?

The protocol allows a review for anything which relates to the scoring of a goal including whether there was a 2nd touch or not from an indirect free kick.

8.8 Misapplication of Law

What action should the VAR take if a misapplication of Law is clearly identified?

If there is a clear misapplication of the Laws of the Game not identified by the referee or other match officials e.g. a player touches the ball a 2nd time at a restart (including a penalty kick), the VAR must inform the referee if a goal or penalty situation occurs.

*In other situations, where it is a matter of the referee's judgment (e.g. 9.15m at a free kick) the VAR **should not inform the referee as the VAR is only for incidents where there is a clear error/serious missed incident relating to a goal, penalty, direct red card or mistaken identity.***

8.9 Multiple reviews

How should the VAR manage a situation where a number of potentially reviewable incidents/offences occur at the same time or in quick succession?

The order in which reviews take place will be determined largely by the VAR and referee's experience and instinct. The aim will be to achieve the correct outcome as efficiently and quickly as possible. Usually, the 'first' incident will be reviewed as if this is changed then everything that followed will probably become irrelevant (except for some types of disciplinary action).

The most suitable order will become evident during the referee-VAR education and is an area where the exchange of information from different competitions will benefit everyone.

8.10 Neutral zone/situation

What is the definition of the 'neutral zone/situation' when the referee stops play for a review?

The guidelines for neutral zone/situation stoppages are similar to those when there is an injured player on the ground in the penalty area i.e. play can be stopped when neither team has a clear attacking opportunity.

8.11 Penalty kicks and Kicks from the Penalty Mark (KFPM)

Will penalty kicks be treated as a goal and, therefore, should the VAR review encroachment, goalkeeper movement off the line, etc.?

The referee can initiate a review for an offence by the goalkeeper or kicker which directly affects the outcome of the penalty kick and thus whether a goal is scored. If an offence is clearly identified, the necessary disciplinary action must also be taken.

Encroachment can only be reviewed if:

- *an attacker who encroached scores or is directly involved in a goal being scored*
- *a defender who encroached prevents an attacker playing or being able to play the ball in a situation where a goal might be scored*

Other encroachment offences and other infringements which do not directly affect whether a goal is scored cannot be reviewed.

8.12 Restarts – can a decision be changed after play has restarted?

If a restart has been taken, can previous decisions be reviewed and potentially changed?

Law 5 is clear that a referee cannot change a decision once play has restarted; referees will be encouraged not to allow play to restart if there is the possibility of a review. The only exception is for direct sending-off offences such as violent conduct where the disciplinary action can be taken but play does not revert to the restart associated with that offence (e.g. the Suarez 'bite' in the World Cup).

8.13 What happens if the VAR identifies a clear mistake in a match-changing incident after the referee has blown the whistle for half-time or full-time?

The referee blows for half-time or full-time and the VAR then communicates that a potential clear error/serious missed incident has occurred before the whistle to end the half – can the referee review the incident?

The VAR is like an assistant referee - if an assistant referee is indicating an offence which occurred before the referee blew the whistle, the referee can still take action as long as the referee has not left the field of play.

If this situation occurs, the VAR should immediately tell the referee who can inform the players and stop them leaving the field of play. The incident should then be dealt with according to the normal VAR procedures (check, review etc.).

To avoid such problems, in the final minutes of a half, the VAR should immediately inform the referee of any potential check/review so that, if possible, the referee can stop play/delay a restart to avoid having a review after the whistle for the end of the half has been blown.

8.14 What should the VAR do if a 'check' for a possible red card identifies a 'missed' yellow card offence?

The VAR is checking a potential 'missed' direct red card but the check reveals that it was not a red card but was a clear yellow card – what should happen?

Nothing – a review can only occur if there has been in a clear error involving a missed red card. If the check reveals that a clear red card was not missed there can not be a review and there should not be any communication with the referee, except to confirm that there was no missed red card.

'Missed' yellow cards can only be issued as part of a review that occurs because of a clear error/serious missed incident involving a goal, penalty, direct red card or mistaken identity.

8.15 Can the referee consult the VAR before deciding whether an offence is a RC or YC?

If the referee is unsure if an offence is a YC or RC, can there be a review before a card is shown?

No. In principle the referee must make a decision and show a card. The VAR will then check the incident and can only recommend a review if a clear error has been made. Only in very exceptional circumstance can there be a 'review' before a card is shown.

8.16 Can the referee ask for a review for an offence by a substitute or team official?

The coach behaves badly but this is not seen by the referee – can this be reviewed?

Reviews are for incidents relating to the players but a review could be used in exceptional circumstances for a red card offence or a goal/penalty e.g. a substitute/team, official commits an offence against an opposing player or match official or enters the field of play to stop a goal.

8.17 What happens if the VAR identifies a clear 'missed' penalty kick but also an offside in the build-up to the missed penalty?

The VAR sees that the referee has made a clear error in not awarding a penalty kick but there was also a clear 'missed' offside/handball in the attacking phase leading up to the incident – what should the VAR do?

This is not easy but for the management of the game and to avoid unnecessary criticism after the match, the referee should be informed of both situations at the next stoppage. The referee then has 2 options depending on how 'clear' the missed penalty error was and the state/atmosphere of the game:

- *initiate a 'review' knowing it will result in a decision that there was an offside/handball before the 'missed' penalty so no penalty is awarded (but everything is clear to everyone) or*
- *inform the captain of the team that would have been awarded the penalty that there was an offside/handball before the 'penalty' so the penalty would not have been awarded (the 4th official would inform the coach and someone in VOR would inform the broadcasters)*

8.18 If a review does not lead to a changed decision does the referee make allowance for the time taken?

Based on information from the VAR, the referee stops play but the review then shows it was not a penalty - is allowance made for the time taken for the review?

Yes – whenever the referee stops play or delays the restart of play for a 'check' or for a 'review' the time between the start of the delay and the restart of play must be included in the additional time at the end of the half in which it occurred.

9. Referee education

9.1 General

As education is vital, **permission to move from 'offline' to 'live' experiments will not be given by The IFAB until sufficient offline education has been completed.**

The success (or otherwise) of the VAR system will be judged primarily on three factors:

- the accuracy of reviewed decisions
- the number and duration of reviews
- the impact of reviews on the flow and emotions of the game

The education of all match officials and VARs will be crucial. Although the main focus will be on the referees and VARs (+ AVARs), the education of ARs, 4th officials and AARs (where used) will also be important.

A crucial feature of the education will be to train referees (and ARs) to **FORGET** the VAR **BEFORE** giving a decision, but to **REMEMBER** the VAR **AFTER** the decision – referees must not allow play to restart if there could be a review; if necessary, the referee should create time for the VAR to 'check' the situation/decision.

The biggest education challenge is moving from the theoretical and 'classroom' practice to the 'real thing'. It is very important that referee and VARs get as much 'match simulation' practice as possible as it is crucial for them to practise assessing situations 'under pressure'. The trial matches showed that it was not easy for referees, in the middle of a match, to change their 'vision' to focus on a TV screen, especially when they may be out of breath and feeling under pressure. Equally, it is not easy for VAR to assess complex situations when under real pressure.

Many people wrongly think that being a VAR simply involves watching the match on TV and giving the referee advice. Those who have studied VAR in detail and/or who have followed the KNVB, MLS and FIFA trial matches, know that it is far more complex. No competition will want major mistakes/delays in the 'live' use of VARs as this will damage the image of their competition (and the VAR system) and may threaten the sporting integrity of matches and potentially the whole competition.

Given the skills and experience required, VARs should be referees who are or have refereed (and are still involved in refereeing) at the level of the competition using VARs.

The IFAB will lead the referee education processes and will outline necessary stages/activities, assist with workshops and coordinate education and publicity resources, including a 'library' of match incidents for training and education.

A crucial feature will be national FAs and competitions sharing information (incidents, mistakes, good practice etc.) and resources (clips of incidents, clips of VAR-referee interactions, full matches etc.). This collaborative and collective learning will be essential for referee education and the whole VAR experiment; it will be facilitated by The IFAB platform.

9.2 Who can be a Video Assistant Referee?

Selection of VARs will inevitably depend on resources and the technology system (match centre or VAR at the stadium). However, VARs should have experience of refereeing at the top level in the competition concerned and can only be:

- current top level referees
- recently retired top level referees
- former top level referees still actively involved in refereeing

The VAR (and RA, RO and AVAR) must be 'neutral' in respect of the competing teams.

The range of skills required include:

- proficiency with video replay and communication technology (including use of graphics)
- ability to analyse video footage quickly and calmly
- high level of understanding of the Laws of the Game
- calm disposition; good under pressure
- clear diction (speaking) and excellent communication skills
- 'team' player (not dictatorial)
- humble (not upset if referee rejects their recommendation)

Competitions should consider the value of each referee regularly working with the same VAR, so that VAR becomes a member of a referee's 'team' of officials.

9.3 Education programmes

A significant amount of match official and VAR education (theoretical and practical) will be required – much of it should be 'joint education' so that referees and VARs understand the pressures/challenges each group faces using the VAR system. Education must be on-going and will increasingly be based on the experience of the individual competitions and feedback from other competitions and The IFAB.

It will be important that VARs, AVARs and ROs are sufficiently skilled and familiar with situations where a reviewable situation occurs when a check/review is taking place.

Every stage of the education process must include regular reinforcement that the VAR is only used for 'clear errors' or 'serious missed incidents' - '**was the decision clearly wrong?**' VARs, referees and other match officials must resist the (perhaps unconscious) temptation to use the VAR system for decisions which are not 'clearly wrong' or which fall outside the reviewable decisions protocol.

9.3.1 Theoretical

VARs, AVARs and match officials (especially referees) must fully understand the details of all the protocols so they can apply them efficiently and correctly when under pressure. In particular, they must clearly know the factors, requirements and restrictions relating to:

- which incidents/offences can/cannot be reviewed
- the difference between a 'check' (including a 'silent' check) and a 'review'
- what determines a 'clear error'
- how long before/after an offence/incident a review is permitted
- judging the 'neutral zone/**situation**' when play needs to be stopped for a review
- how a review is initiated, conducted and concluded
- determining whether an OFR is required or a decision can be made based only on information from the VAR i.e. factual decisions
- the benefits and potential dangers of slow motion replays
- positioning, movement and responsibilities of all match officials during the review
- communication protocols

The theoretical education will be extremely important in establishing a clear and easily applied understanding of which incidents/offences can and cannot be reviewed and determining what constitutes a 'clear error' or 'serious missed incident' as these are fundamental and crucial judgments.

9.3.2 Practical

As well as a full understanding of the theoretical requirements, it will be essential that a considerable amount of time is spent practising, refining and reinforcing:

- how to operate the replay technology
- analysing footage of incidents/offences at normal speed and in slow motion
- using graphics (especially the 'offside line')
- judging the 'neutral zone/**situation**' when play needs to be stopped for a review
- determining when a 'silent' check is sufficient and when the referee needs to be alerted to the possible need for a review (or confirmation that decision was correct)
- indicating the initiation of a review and remaining aware of the need to delay/prevent the restart of play
- determining whether an OFR is required or when a decision can be made based only on information from the VAR e.g. factual decisions (position of offence/player(s), point of contact, ball out of play, goal/no goal etc.)

- applying the most efficient order of reviews where several incidents occur simultaneously or within a short period of time
- using the communication protocols
- using the positioning, movement and responsibility protocols during a review, including reducing, as far as possible, the time taken for a review
- indicating the outcome of a review, disciplinary action and how play restarts
- keeping efficient records of all potential reviewable incidents/offences (including the outcome/final decision)

This education will involve a number of different off-field and on-field stages and approaches

Off-field practical education

A considerable amount of time must be spent by each referee and VAR, working individually and in groups, in the following areas:

- studying and testing knowledge and understanding of all protocols and recommendations
- using footage of match incidents/situations/phases of play/half and full matches to practise judging which incidents can/cannot be reviewed, what constitutes a ‘clear error’ or ‘serious missed incident’ and, for VARs, developing the ability to concentrate for long periods. These exercises should take place:
 - without time pressure
 - under time pressure, including some element of ‘competition’ between different groups of VARs
 - using different replay speeds

Ideally, competitions will establish an online education platform to allow individuals to undertake personal education, reinforcement and refreshment (remote training).

In addition to the video-based education, VARs and referees should regularly:

- practise communication and exchange of information, including:
 - VAR and referee in different rooms
 - VAR in a room in the stadium and the referee on the field of play
- practise working with ROs and RAs to select and review footage
- practise recording information relating to reviewable incidents/offences (VARs)

On-field practical education

This is the most important area of the referee and VAR education and needs considerable time – it is vital that ‘time and emotional pressure’ are created as this is what the referees and VARs in the trial matches have found most challenging.

After an initial phase of video-based education, the education should extend to concurrent on-field education using players to simulate match situations/phases of play. These exercises should focus primarily on:

- applying all protocols with players creating match situations
- applying all protocols with players playing ‘normally’ (short and longer playing periods and then a ‘full’ match) - players should be encouraged to ‘manufacture’ a variety of reviewable incidents)
- being alert to the need to delay/prevent the restart of play, especially when the offending team/player attempts a quick restart to avoid a review
- determining whether an OFR is required or when a decision can be made based only on information from the VAR e.g. factual decisions (position of offence/player(s), point of contact (foul/handball), ball out of play, goal/no goal etc.)
- determining when a ‘silent’ check is sufficient and when the referee needs to be alerted to the possible need for a review (or confirmation that decision was correct)
- indicating the initiation of a review
- reducing the time taken for a review
- VAR avoiding the ‘temptation’ to check a situation/decision ‘out of curiosity’ as this can distract the VAR from watching the ‘live’ action
- positioning and movement of the referee and other match officials during a review

It is recommended that these simulated exercises are used to practise different levels of impact on the referee’s decision-making:

- no communication between referee and VAR (practice for VAR)
- communication between VAR and a ‘surrogate referee’ (positioned on/close to the side of the field of play) – to test and refine communication protocols etc. this is an important way of creating ‘pressure’ especially if used during a ‘live’ match
- communication between VAR and referee but no impact on decisions (to allow the referee to become familiar with type and levels of information being received)
- communication between VAR and referee to apply all review protocols to decisions

All stages will require careful analysis, feedback and, where appropriate, refinement of protocols, especially those relating to communication and using the replay technology. Where VARs who are non-active referees are used, they must spend some time in these practical sessions acting as the referee (either on the field of play or as a ‘surrogate’ near the technical area) to understand the VAR system from the referee’s viewpoint.

9.3.3 On-field ‘live’ matches

Each competition/national FA will reach a stage where it is ready to start using ‘live’ matches off-line as part of the education process. It is recommended that ‘offline’ education using ‘live’ matches starts as soon as referees and VARs are conversant with,

and have started to practise applying, all the protocols. 'Live' matches are vital to create the 'time pressure' which does not exist in simulated exercises.

Initially, 'live' matches will only be used at 3 levels:

- no communication between the VAR and the match referee - other referees will observe the VAR and/or analyse the match
- communication between the VAR and referee(s) located somewhere else in the stadium, including a referee at/near to the field of play/technical areas
- communication between VAR and the match referee but with no impact on decisions (for familiarisation with levels of information being received)

There is considerable value in using 'live' matches for 'surrogate' training to develop the ability of VARs to concentrate on a TV screen for 2 x 45 minute periods

When a competition/national FA believes it is ready for all the VAR protocols and practices to be used in 'live' matches (including friendly matches), permission must be obtained from The IFAB who will require clear evidence that extensive education of match officials and VARs has taken place. To facilitate this, competitions/national FAs should keep The IFAB fully and regularly informed of the various stages of their education programmes.

9.4 Training topics

9.4.1 General

Training should be structured to focus on the different review decisions/offences and at varying degrees of complexity.

Training should include identifying:

- decisions which should be decided only on information from the VAR (factual decisions such as ball in/out of play, offence inside/outside penalty area, position of player(s) for offside, goal/no goal)
- decisions when the referee will usually want to view the footage (OFR) (subjective decisions such as whether a challenge was reckless or excessive force).
- situations when the referee viewing the footage will help 'sell' the decision (i.e. make it more readily accepted)
- the value of indicating clearly that the referee will undertake an OFR
- when delaying the restart of play is important (VAR needs time to 'check' or offender(s) trying to prevent a review)

9.4.2 Main focus points for referees and VARs

The structure of the training and education of referees should focus on the following important principles:

- the VAR is only to be used to correct **CLEAR ERRORS** in the defined set of match-changing situations (goals, penalty incidents, (direct) red cards and cases of mistaken identity) and for serious missed incidents
- the referee must **ALWAYS MAKE A DECISION** – there is no option to say “*I don’t know so I will look at the video*”
- the referee should try to **FORGET** about the VAR **BEFORE** making any decision
- the referee should **REMEMBER** the VAR **AFTER** a reviewable situation has occurred, being ready to delay the restart to give time for a ‘check’ (which may lead to a review)
- **factual incidents/decisions** (e.g. position of an offence, position of player(s) for offside; point of contact for a foul/handball; ball out of play, goal/no goal) **will not usually require an OFR**
- identifying the ‘**neutral zone/situation**’ when play has continued and the VAR recommends a review and the referee needs to stop play
- where a goal is about to be scored and an offside flag has been raised, **delaying the whistle** may create the opportunity for a wrongly signalled ‘offside goal’ to be allowed, if the goal is scored before the referee blows the whistle
- being ready for the unpredictable (one in a million) incident
- **which order incidents should be reviewed when a complex/multi-incident situation has occurred**

9.4.3 Main focus points for VARs

The training and education of the VARs should focus on the following important principles:

- the focus (for checks and reviews) is only on **CLEAR ERRORS**
- the VAR has a **responsibility to ensure that incidents which are not reviewable are not reviewed**
- where there is real possibility of a clearly incorrect decision, the referee should be warned so that the **restart of play can be delayed**
- identifying when a **new ‘attacking possession phase’ (APP)** starts
- developing the ability to **concentrate for 2 x 45 minute periods** on a TV screen; using the ‘reset’ to identify the start of a new APP assists this concentration process
- being ready for the (one in a million) incident
- **regular contact** with the referee (e.g. every 10/15 minutes) helps the referee know that the system is still working
- helping the referee decide in **which order incidents should be reviewed** when a complex/multi-incident situation has occurred
- clear communication with RO, RA and referee

9.4.4 Main focus points for ARs, fourth officials and AARs

The training and education of ARs, fourth officials and AARs should focus on the following important principles:

- only the referee can initiate a review but the other officials can recommend a review
- ARs must **ALWAYS MAKE A DECISION** – there is no option to say “*I don’t know so I will look at the video*”. However, if a player is within the penalty area and about to score and there is real doubt about offside (position or offence) delaying the flag signal may prevent a major error which can not be corrected if play has been stopped
- unless directly involved in the incident being reviewed, the other match officials should be **quiet during a review** to avoid distracting the referee and VAR
- the other match officials should remember where/how the match should restart
- the other match officials should **monitor/manage the players/technical areas** whilst the referee is busy with a review (especially an OFR)

9.4.5 Training for specific decisions/situations

Training must continually focus on:

- identifying only those decisions/situations which the protocol allows to be reviewed
- regularly stressing that replays can not be used for other decisions/situations
- judging which decisions can be reviewed based only on information from the VAR
- judging which decisions/situations need an OFR
- deciding which order to review different incidents/decisions when a complex or multi-incident situation occurs

Specific reviewable decisions/incidents:

a. Goals

All possible scenarios should be studied/practised, with special attention given to:

- offence by the scorer:
 - foul on an opponent
 - handball
 - offside
- ball out of play prior to the goal
- ‘goal/no goal’ decision (where there is no GLT)

b. Penalty kick

- penalty kick wrongly awarded
- penalty kick wrongly not awarded
- location of incident (inside or outside the penalty area)
- ball out of play prior to the incident
- offence by goalkeeper &/or kicker at the taking of a penalty kick
- encroachment by an attacker or defender who becomes directly involved in play if the penalty kick rebounds from the goalpost, crossbar or from the goalkeeper

c. Red Card

Offence seen by 'active' match officials

- violent conduct and spitting
- serious foul play (or reckless challenge)³
- DOGSO (especially position of offence and position of other players)
- mass confrontation

Offence seen only by VAR

- violent conduct and spitting
- serious foul play (or reckless challenge)³
- DOGSO (especially position of offence and position of other players)
- mass confrontation
- benefit of indicating a review quickly as no match official has seen the incident

d. Mistaken identity (red or yellow card)⁴

- offence correctly detected but the wrong player sanctioned
- offence incorrectly detected and the wrong player sanctioned

e. Situations of different complexity

Special attention given to those situations which are more complex and challenging:

- differentiating between 'check' and 'review'
- period of play prior to a goal/penalty kick situation
- period of play after a potential review incident
- play continuing after the ball has clearly gone out of play
- use of different replay speeds for 'point of contact' and for 'intensity (foul) or intention (handball)'
- restart decision (including location) when the original decision is overturned or play is stopped for a review
- mass confrontation
- situations where a potentially reviewable offence takes place in one penalty area and play immediately moves to the opposite half/penalty area
- situations which are on the margins of protocols or which rarely occur
- play needs to be stopped for a review but it is difficult identifying when play is in a 'neutral zone/**situation**'

³ For potential serious foul play offences, if the referee has penalised the offence, a review is only permitted if the referee has genuine doubt as to whether the offence exceeds the criteria for 'reckless'

⁴ This includes when a player from the wrong team is penalised e.g. EURO final when a French defender was wrongly penalised and cautioned for a handball which had been committed by an adjacent Portuguese player

- situations which require additional disciplinary action or for a disciplinary sanction to be rescinded
- situations where an 'off the ball' red card offence is committed by a member of the team which then is awarded a penalty kick or scores a goal
- situations where an 'off the ball' red card offence is committed by a member of the team which then concedes a penalty kick or a goal

f. Multiple incidents in quick succession

Probably the most complex and challenging situations will be those where a number of crucial incidents occur in quick succession, e.g.

Example 1

- possible missed penalty for Team A
- counter-attack by Team B
- possible offside and goal scored by Team B

Example 2

- possible offside against Team A
- foul by Team B defender – inside or outside penalty area?
- DOGSO or serious foul play?

Example 3

- possible missed violent conduct (off the ball) by Team A
- counter-attack by Team B
- possible offside and goal scored by Team B

g. Player management

A considerable amount of training and education will be necessary in relation to player and team official management including:

- during the review process – especially when the referee is in the RRA
- communicating the final decision e.g. liaison with the captain(s)
- once the final decision is communicated, taking the necessary disciplinary action is taken and ensure the correct restart at the correct position
- where to position a player who is due to be shown the red card but the decision is being reviewed (e.g. isolate the player near the referee, player to leave the field of play but stay in the technical area or with the 4th official etc.)

9.5 Training material

The education of referees and VARs (and others) will be of fundamental importance to the VAR experiment and will involve considerable use of match footage. Whilst using clips of individual incidents will be valuable, it will also be very important to use whole matches, especially to help VARs develop concentration powers and the ability to identify a clear error in a match-changing situation after a long period of inaction.

Individual competitions/countries should arrange to exchange clips, whole matches and education ideas with each other to allow their referees, VARs and other match officials to train using unfamiliar material. This collaborative exchange will play a very important role in the success or otherwise of the VAR experiment.

9.6 Recommendations from the FIFA Club World Cup (Japan - December 2016)

The FIFA Club World Cup in Japan in December 2016 provided an in-depth opportunity to test the VAR system, even though few of the matches required a 'review'.

Judging if a 'clear error' has occurred

- VARs should trust their 'first feeling' when a potentially reviewable incident occurs i.e. does the decision immediate 'feel' wrong?
- VARs should remember that they should only intervene for 'clear errors' and their role is not to re-referee the match but to assist the referee to avoid clear errors only

Offside

- ARs should continue to make offside position decisions as if there was no VAR
- If a player in the penalty area has a clear opportunity to score and the AR raises the flag for a close offside decision, where possible the referee should delay the whistle so that, in certain circumstances, if a goal is scored and the offside flag was incorrect, the goal can be allowed

Referees

- If, during an OFR, the referee requires a different angle/speed the request must be specific e.g. "*show me the view from behind the goal*" or "*show me that challenge in slow motion*"
- Referee should verbally acknowledge any communication from the VAR so the VAR knows that the referee has heard the communication
- Referees should allow time after a major decision (e.g. goal has been scored, penalty kick awarded) for the VAR to undertake a 'check'

System malfunction

- The (temporary) malfunction in one match of a screen in the VOR and one in the RRA emphasised the need for everyone to know the exact protocol and procedures if there is a (temporary or permanent) partial or full malfunction of the VAR systems
- This failure emphasised why referees and ARs must ALWAYS make a decision i.e. referee as if there is no VAR

- If the RA becomes aware of an issue/problem in the RRA, the RO/VAR must be informed immediately

Team/coach/media information

- It proved very beneficial, when briefing teams/coaches/media, to show them clips of incidents which are likely be reviewed – this may help create more ‘fair play’ if players are aware of what they might be penalised/sanctioned for during a match as result of a VAR ‘check’ and subsequent ‘review’

Training

- Very important to practise identifying the start of ‘attacking possession phases’
- When VARs are practising analysing clips of incidents, a useful training method to create ‘pressure’ is to make the VAR aware of the time being taken for the ‘check’
- Hawkeye were excellent at providing ‘challenging’ clips for VAR training
- Based on their work in other sports, Hawkeye can give instructions to VAR to help analyse whether the ball has made contact with the body

VAR procedure

- The VAR giving a verbal ‘running commentary’ on play/incidents helps the RO to identify when a ‘check’ may be necessary
- VAR should remind the referee to show the TV sign whenever a review is initiated as the referee may forget to do so (this is a risk when a referee is not used to undertaking reviews) – the TV signal is required for ALL REVIEWS, not only OFRs
- VAR should proactively assist the referee to identify a player who is due to receive YC or RC (better to prevent mistaken identity than correct it)
- It is very useful to have communication between VAR and referee at half-time to check communication, issues in the match etc.
- If there is a 2nd VAR (not an AVAR), there should be discussions (pre-match and during the match) to determine what action/players/area of the field each VAR looks at e.g. at a corner kick VAR1 watches play in the goal area while VAR2 watches players running towards the ball
- Useful to have signs/notes/posters reminding the VAR of the key element of the protocol – ‘clear errors only’ etc.
- All replay angles are synchronised so they all show play at exactly the same moment

10. Analysing the data

10.1 General

Ultimately, The IFAB will have to decide whether video assistance is incorporated into the Laws of the Game. This decision will be based on the answer to the question:

‘Does the implementation of VARs improve the game?’

To answer this question, The IFAB has appointed KU Leuven (Belgium), a university with considerable expertise in both referee/football research, to gather and analyse the VAR data. Their results will be validated by TU München and Harvard universities. Their data gathering and analysis will aim to answer the following sub-questions:

A. What is the impact on refereeing?

- Behaviour of referees
- Behaviour of other match officials - assistant referees, additional assistant referees and fourth officials
- Fair play & application of the Laws of the Game

B. What is the impact on the game itself?

- Interruptions to the game
- Simplicity of the game
- Behaviour of players and coaches

C. What is the impact on the emotions of the game?

- Players and coaches (e.g. goal celebrations)
- Fan experience (in the stadium & TV)
- Media reaction

Competition organisers will be required (under the direction of The IFAB and the university) to collect and transmit to KU Leuven and The IFAB detailed match information, including match footage and, potentially, footage filmed in the VAR room. They will also be required to collect and transmit feedback from stakeholders who are directly involved (referees, players, coaches etc.).

Feedback from stakeholders who are not directly involved in the experiments, especially football fans, referees, players and coaches, will also be analysed.

KU Leuven’s report should provide The IFAB with the broadest possible basis upon which a VAR implementation decision can be made.

10.2 Data collection

The IFAB, in cooperation with KU Leuven, has developed an online application wherein all the data of the offline, semi-live and live trials will be gathered. All the project managers will be provided access to this platform.

The project managers, appointed by the competition organisers, are required to upload the clips from all the checks and reviews **within 72 hours** after each match with offline, semi-live and live video assistance. The best footages (mostly the operator output) will be used.

Once the clips are uploaded, the project managers should complete both the match and the clip surveys. These questionnaires will collect detailed information about the match, including all checks and reviews, and the decision-making procedure.

Other stakeholders who are involved directly in the experiment will be questioned using different data collection methods.

10.3 Data analysis

The data collected from all the matches using VARs will be analysed and reported on a regular basis to The IFAB.

All the data from the offline trials will be used as a bench mark. The data of the live trials will be analysed and compared with the offline trials. Together with the information gathered from the other directly involved stakeholders, the aim is to explore if the using VARs leads to 'minimum interference' (loss of time, etc.) with 'maximum benefit' (increased decision accuracy, etc.). The IFAB will use experts to determine a reference decision for a selection of 'grey zone' clips to protect the consistency, reliability and validity of the data collected through the online application.

10.4 Education

It will also be possible to share interesting clips for educational purposes after a clip is suggested by a project managers and approved by The IFAB. Educators will have access to the platform to use the shared clips in their workshops to train the referees and VARs.

11. Technology and organisation

11.1 VAR Technology

The video replay technology is a tailor-made system for football, which is operated by a replay operator (RO), and provides the VARs with the best available camera angles in the fastest possible time. Based on discussions with the technology providers involved in the experiment and participating national FAs and competition organisers, and experience from testing phase 1 of the experiment the following requirements have been identified as minimum standards for the technological setup for 'live' trials in testing phase 2.

This standard should ensure the highest possible quality for the VARs and referees all over the world and consistency among the participating competition organisers. Moreover, it is be important for the reporting process in order that the selected university can compare data from the various competitions.

11.1.1 Key objectives

In order that VARs are able to improve the game with their support for the referee, the following key objectives from a technological point of view have to be fulfilled:

- VAR and referees should be able to use different VAR systems in the same way without additional special training
- The VAR system and the operating review process should support the VARs and referees to make consistent decisions
- The best camera angles should be provided in the fastest possible time to the VAR and to the device in the RRA for potential reviews by the referee

11.1.2 Strategy

In order to achieve these objectives the following strategy has been defined:

- a. Standardisation of the devices operated by the VARs and referees
- b. Minimum requirements for technological setup
- c. Definition of the operating review process

11.1.3 Minimum requirements: 'Live' trials in testing Phase 2

The entire review process should be controlled by the competition/match organiser. Based on the trials in testing phase 1 the following minimum requirements have been defined for the "live" testing phase 2:

Video operation room (VOR)

Minimum requirements:

Camera feeds:

- The area must have independent access to, and replay control of, all broadcast feeds and camera angles which focus partially (zoom) or entirely (wide-angle) on the field of play and the TV programme feed
- All camera feeds used for the VAR review must be available for the broadcaster as well
- All available camera feeds must be synchronised and shown on the screens in real time (delay less than one second to real-time)
- Transmission of 'live' feed from inside the VOR to the match broadcaster
- Recording of all isolated camera feeds, TV programme feed and review process inside VOR (including sound)
- Cameras angles should have names/titles (e.g. AR1 and AR1 reverse) and these names/titles should appear on the screens in the VOR and RRA
- There is no requirement regarding the number of cameras in testing phase 2. However due to the fact that there are many crucial decisions in the penalty areas (especially offside) so there is value in having a camera in line with/close to the goal area front line (5.5m)

Working station:

- The VOR operations can be located near/in the stadium (in a vehicle or room), or at a centralised replay facility and requires a VAR and AVAR
- The VAR should use two screens. On one monitor the VAR can follow the match in real-time and the second should be used for the actual review process. The AVAR should have a personal own monitor to watch the live feeds while a check is ongoing.
 - i. Two screens and one tagging device for the VAR
 - Standard "live" monitor (e.g. camera 1)
 - Touch screen "output" monitor with 2-5 seconds delay of incidents
 - ii. Dedicated "live" screen and one tagging device for AVAR
 - Standard "live" monitor (e.g. camera 1)
- No use of offside graphics from match broadcaster, only if approved (see 5.3.5)
- Zoom in/out feature should be available for review process
- Pre-match agreement of camera angles including pre-sets of best camera angles between competition/match organiser and technology provider
- Established communication line between VOR and match broadcaster
- The main RO can monitor a maximum of 12 camera angles. As of camera angle 13 another RO is mandatory.

Other areas:

- Visitors should not be allowed in the 30 minutes before kick-off to allow the VAR and AVAR to prepare and focus
- Lighting in the VOR must enable the VARs, ROs and anyone who enters the room to be identified; the footage is needed for education and for integrity control

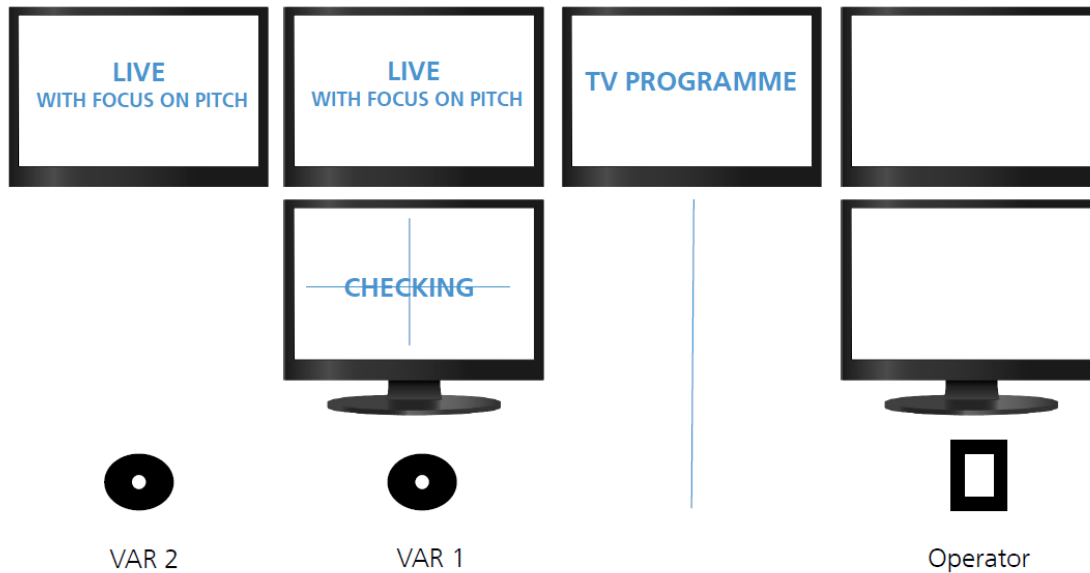


Figure: Example for a setup at a video operation room (VOR) – in most competitions VAR2 = AVAR

Referee review area (RRA)

Requirements:

- Cabled outdoor device at the RRA
- Cover from weather conditions and for security – the location of the RRA in relation to prime seating, advertising, security etc. will be a major consideration in each stadium

Headset communication

Requirements:

- The VAR headset must be integrated into the match officials' headset system
- The headsets of the AVAR, RO and RA should also be integrated in the communication system but should only allow listening to the communication; only headphones are allowed since they are more effective than ear-pieces
- Recording of the communication between the VAR and referee
- Push-to-talk feature for the communication between VAR and referee (to avoid distractions caused by discussions between VAR and AVAR/RO)
- The 'talk' button should switch off when not pressed down so it does not remain 'open' at the end of a communication as this can distract the match officials and potentially lead to confusion and even decision errors.

11.1.4 Technology Providers

- Avid
- Broadcast Solutions GmbH
- ChyronHego Aps
- ColosseoEAS a.s
- Dartfish Ltd.

- DV Sport
- Evertz Microsystems Ltd
- EVS Broadcast Equipment
- Hawk-Eye Innovations Ltd
- Mediapro
- Misure sport
- MyPlayxPlay
- SBG Sports Software
- XOS Digital Inc.

The following outlines some important findings and recommendations from the work already undertaken by the MLS.

11.1.5 Technology best practice and key findings

- High functionality of equipment – number of screens; clarity; speed; slow motion; zoom; split screen; touch screen; graphics from broadcast or technology provider if verified, but not from both.
- Efficient processes and support of VAR, including the identification of potential views/angles; tracking of one or more infringements and/or incidents at a time; understanding of the game.
- Appropriate qualities and disposition of RAs – technically competent, proactive, supportive, communicative, facilitators.
- Training tools – database of role-play clips; effective feedback on VAR-RA/RO communication and VAR interface with technical tools; remote training tool.
- Documentation – manual tagging and recording of incidents reviewed during each training and/or match accompanied by video and audio footage.

11.1.6 Key Findings

- The location of VOR, including its proximity to the production room and connection to the on-field monitor, needs to be a well-thought out plan per venue.
- Technology provider might be the most expensive line item of video review (barring the development of a ‘Command Centre’) due to per-game fees, RA travel costs, equipment shipping, and training tools.
- In theory, several interested vendors may help keep expenses in check.

11.1.7 Production best practice and key findings

- Allocation of eight (8) cameras traditionally used for MLS broadcasts and, at the very least, the following in-stadium locations: Game midfield, tight midfield, low midfield, left 18, right 18, high end zone; names/titles shown on VOR/RRA screens
- 4K cameras on the end-lines to capture ‘crossing the line’ incidents, goal mouth incidents and offside
- Set up conducted 5+ hours before kick-off with rehearsal checks that include the technology provider
- Allocation of time leading up to and during setup to establish functionality of all appropriate connections

- Connection to the on-field monitor with venue-specific challenges considered
- Designation of a 'Production Video Review Engineer' in charge of liaising with the Director of Broadcasting and the technology provider, as well as for troubleshooting purposes
- 'Faxing' in feeds is a critical step and will limit, but not eliminate, production challenges
- Adjusting footage for brightness based on time of day will help provide the best image to VARs
- Consideration should be made for reverse left and right 18s zoomed out for offside and reverse angle perspectives⁵
- Manned reverse angle cameras require understanding and training for offside
- Extra cameras should be available as redundancies (backup) for camera failure
- A contingency plan and troubleshooting list should exist for other production failures
- Synced cameras using 'beacons' ensure timing is exact, especially on split screen plays (offside)
- Must use either graphics provided by the VAR to explain decisions or verified self-created images

11.1.8 Production challenges

- Stability problems turned screens temporarily black
- At least two MLS games this season ('16) have failed for extended periods of time (1-6 minutes).
- A feed was unplugged mistakenly at field level and in the Video Operation Room resulting in no feed for an entire game during the Portland Trial. The threat of losing the entire broadcast if troubleshooting was to be initiated minimized immediate options.
- 'Routers' were not 'reset' so colour bars replaced field images on specific screens; no point person from production was available to troubleshoot and, therefore, required individuals with other video review responsibilities to seek support.
- No communication was established between reverse angle camera operators and the production booth/truck negating the ability to troubleshoot a poor approach and/or fix brightness issues associated with pre-dusk time of match.
- 'Racks' for lighting were not set/operable.
- FAX (facilities) checks were supposed to eliminate concerns, but did not do so periodically.
- In critical moments (penalty kick), feeds are focused on the wrong or non-competitive image (fans).
- Feeds go down; brightness of one feed was off (too dark); one feed was too zoomed in to the play; static reverse camera was not focused enough on the field (too much stadium view).
- An appropriate and effective policy must be established if some/all cameras are lost.

⁵ Reverse angle cameras were found to be critical for incidents on the opposite side of the field and/or where players limited or obstructed the view necessary for the VAR to make a decision.

- The Italy v France match in Bari was produced as a double broadcast production with 23 camera feeds and 2 world feeds. The preparation of the match identified additional challenges for such a setup:
 - cabling to the other side of the stadium (e.g. infrastructure etc.)
 - communication with both production companies (different languages)
 - operational challenge to identify the best camera angles
 - additional costs

11.1.9 Communication provider best practices

Best Practices for Communication Device Provider and User:

- Test wired and wireless connections before the match including those between the referee, ARs, 4th, and VAR.
- Provide 'listener devices' for the two (2) RAs; VARs 'In-Training'; engineers; and, for Competition and/or PRO representatives.
- Walkie-Talkies will be supplied for VAR-4th Official communications as a backup in the event of redundancy (failure of communication system).
- Officials must keep mic close to mouth for optimal use.
- In pre-match testing, officials should speak forcefully and with a 'field voice'.
- If using PTT, officials should delay a second before speaking to allow PTT to activate.
- VAR must become accustomed to the mechanism used to open and close their mic during direct communication with the referee versus that with the technology provider RA.
- Designate a 'Communication Video Review Engineer' in charge of liaising with the officials and technology provider, as well as home team Director of Operations and/or Facilities.
- In the Italy v France match in Bari, the referees were very pleased with the audio quality of the RefComs, once problems were fixed by Adeunis/Vokkero and Hawk-Eye. It is recommended that the VAR technology provider should have a complete RefCom system for each match and must guarantee that it works clearly, reliably and without static interference. The provider should be in contact with Adeunis/Vokkero or other system providers to ensure the use of the best available hardware and configuration. The referee or competition organiser should provide the headsets that plug into the radios.
- In Japan it was clear that communication with the broadcasters etc. can not be undertaken by the VARs or the main RO, especially when there are language considerations

11.2 Organisational matters

The use of VARs does not require any changes to the field of play or the goals; however, **goal nets must be plain white** to prevent distraction or footage distortion.

11.2.1 Referee review area (RRA)

- The exact location of the RRA will need careful consideration in relation to TV cameras, prime seating, advertising space, security etc.
- The 'review area' (RRA - where the referee sees the video footage) must be visible and have a 'no entry' surrounding area clearly marked with lines (not cones) and protected from players, team officials etc.
- There must be sufficient personnel to prevent anyone other than the referee and RA entering the RRA at any stage (unless the referee requires of another match official)
- No form of commercial advertising, whether real or virtual, is permitted on the ground within the RRA (this is consistent with Law 1 – technical area)
- The RRA need some cover to protect the screen from the weather, the ball, thrown objects etc., and, in some cases, to protect the RA and the referee.

Review assistant (RA)

- There will be a (neutral) RA in the RRA whose role is to assist the referee to view the footage recommended by the VAR &/or requested by the referee.
- The RA should have a high level of technology skills – understanding of football and especially refereeing would be advantageous
- The RA must not communicate any information about decisions or reviews to anyone other than the referee and the VAR

11.2.2 Video operation room (VOR)

The VOR will either be in/near to the stadium or at a central location (match centre). There will be significant technology requirements (outlined in the Technology section).

Depending on the number of matches being monitored in the room, there must be enough ROs (well-trained and with relevant expertise) and an AVAR to assist the VAR select the best footage (angles and replay speed) as quickly as possible for:

- checks by the VAR for suspected/potential reviewable incidents/offences
- any review requested by the referee

All activity in the VOR will be recorded by camera with sound to:

- ensure integrity – recordings will identify everyone entering and leaving the VOR and any attempt to exert influence on, or interfere with, a VAR, AVAR or RO
- provide education material
- provide material to evaluate the performance of individual VARs
- a talk panel will be needed to communicate with the broadcaster (as, for integrity reasons, mobile phones are not permitted in the VOR)

For reasons of integrity and transparency:

- for a pre-determined time before the match until a pre-determined time after the match, a written record (signing in and signing out showing name, function, time etc.) must be kept for every person who enters or leaves the room
- all occupants of the VOR will have the same restrictions on the use of mobile phones etc. as apply to the match officials
- the Italy v France match in Bari highlighted the importance of the need for security around the VOR, especially if it is a van in the TV compound or any area where unauthorised people have access. As well as security, an exposed VOR location can cause issues relating to distractions, undue interference/influence
- To allow the occupants of the VOR to prepare for the match NO ONE should be permitted to enter the VOR from 30 minutes before kick-off – this is especially true for visitors. The same restriction should apply at half-time. **Official observers from FIFA or The IFAB are permitted to be in the VOR**

11.2.3 Video footage

- only the official broadcasting ‘feeds’ may be used, but without commentary
- the VAR and RO must have independent access to, and replay control of, the official broadcast footage
- Broadcaster graphics e.g. the offside ‘line’ will not be used unless ‘referee expert’ input is involved in their production
- The VAR and referee should use slow motion replays only for ‘point of contact’ for physical offences and for handball; normal speed should be used for the ‘intensity’ of an offence or to determine if handball was ‘deliberate’.

11.2.4 Camera information (general)

The general requirements for camera perspectives for the provision of the ‘best’ angles of each incident for the VAR include:

The best camera positions identified by the KNVB’s pilot study are:

- High-camera positions (overview; penalty area)
- Low-camera positions (on the touch lines; on the goal lines)
- Minimum requirements based on feedback from other sports and technology providers:
 - Close-up view,
 - Wide angle view,
 - Penalty area views (solution for the indication of offside);

There is considerable value in having ‘reverse angle’ footage available.

The 'best' camera angles for the different areas on the field of play must be pre-set and synchronized so the VAR and RO are able to switch to a specific frame from a different angle within one second.

One camera should be filming the field of play throughout – this may be especially important during a review in case there is misconduct.

As part of the pre-match preparation, the referee, VAR, RA and RO should agree the names/titles of the different camera angles and, where possible, these names/titles should be visible on the screens in the VOR and RRA.

12. Match day organisation

MLS has provided The IFAB with the following recommendations:

12.1 Video review match timeline

12.1.1 Match Officials

- 120 minutes Arrival at field of play
- 105 minutes Field inspection – first test of communications with VAR
- 60 minutes Team list of players and team officials received
- 30 minutes Warm up starts – second test of communications with VAR
- 7 – 10 minutes Walk out – third test of communications with VAR
- 0 minutes Kick off (Video Review starts)
- 22nd Minute Check-in 1
- Halftime Check-in 2
- 66th Minute Check-in 3
- End of Match Final check-in

12.1.2 Video Assistant Referee

- 120 minutes Arrival at field
- 105 minutes First test of communications with crew during field inspection
- 60 minutes Roster of players received – meet with Hawkeye – familiarize with TV setup – backup communications checked – review communications protocol
- 30 minutes Second test of communications with crew at start of warm-ups
- 7 – 10 minutes Third test of communications with crew during walk out
- 0 minutes Kick off (Video Review starts)
- 22nd Minute Check-in 1
- Halftime Check-in 2
- 66th Minute Check-in 3
- End of Match Final check-in
- 97th minute test of communications by 4th official with Referee (knock-out stage matches)

12.2 Video operation room (VOR) set up checklist

- Video Review Manual + **printed version of camera set up (from broadcasters)**
- Copy of the most current Laws of the Game, Competition Manual and Operations Manual
- Protocol book
- Team lists (see below)
- Flowcharts and communication guides
- Game Day Timeline
- Official Match Roster

- List of contacts and contact information
- Protocol and communications placard
- Technology provider equipment + details of camera set up (from broadcasters)
- Connection to on-field monitor
- Table and chairs
- Generator inside booth
- Dimmer for room in some cases; black out curtains in other cases.
- Small fan / air condition
- Security guard
- Game clock
- Towel
- A walkie-talkie on a private channel connected to the 4th officials table
- A sterile environment free from visual and/or audible distractions

12.3 Team lists (Game notices)

Team lists should be made available to the following:

- In the VOR for the VAR and AVAR
- In the RRA for the RA and referee (for potential use in an OFR)
- 4th Official (redundancy)
- Referee liaison
- Technology Provider Review Assistant
- Referee
- PRO Head of Video Refereeing
- Competition Head of Video Review
- Stadium Operations
- League Operations
- Stadium Production
- League Broadcasting
- Home Team Contact
- Communication Device Provider
- Technology Provider and Communication Device Provider Engineers
- Professional Match Evaluator
- Referee Assessor

12.4 VAR pre-match best practice

Pre-match VAR activities should include the following (depending on VOR location):

- Attend the pre-game meal and arrive at the stadium with the referee crew; if VOR not in/near stadium establish early contact with referee (phone/Skype etc.).
- Arrive at the video review booth at least an hour and half before the match.
- Dress as an official (no suits, ties).
- Review VOR set up checklist.
- Review Game Notice.

- Practice manipulating touchscreen technology (touch to activate; use two fingers for zooming; use one finger to move image) and clicker.
- Review Protocol, Flowcharts & Communications Manual/Placard.
- Review Official Match Rosters
- Review Official Match Timeline
- Go through pre-match communication checks with crew.
- Establish process for in-game communication checks with the referee.
- Mute all broadcasting commentary and eliminate graphics other than those authorized.
- Conduct three or more hypothetical scenarios with the referee before or during warm-ups.
- Bring a pad to write player #s, action, and resulting decision while communicating with the referee.
- Ensure technology provider equipment is set up and working correctly.
- Evaluate production feed camera angles, brightness, and functionality.
- Locate and test stadium-based communication headset and walkie-talkies as a redundancy.
- Eliminate lighting issues (glare etc.) using light dimmer, blinds/shades, etc.
- Establish rapport with technology provider RA
- Ensure security and privacy of room.
- Confirm security guard presence at doorway.
- Remove food, but water, coffee and/or other drinks are permitted.

12.5 VAR in-match best practice

The process for VARs during the game should generally resemble the following:

- Watch the game on the large, centrally located monitor
- Click button during incidents
- Rewind to check incidents when necessary and appropriate
- Communicate check/review to RA/referee when applicable
- Describe incident to RA and ask for views/angles to be dropped into the appropriate monitor
- Review flowchart steps
- Use communication protocol
- Provide information and facts to referee where warranted and appropriate

Additionally, VARs should remember the following in-match activities:

- 'Check-in' with referee at the 22nd minute, half-time, 66th minute, 80th minute and at the end of the match.
- Over-communicate with RA
- Use button liberally to mark potential key match incidents and infringements
- Be proactive in analysis, feedback and disposition
- Wipe monitors before match and at halftime with a towel to eliminate touch marks
- Be cognisant of check/review differences, including respective steps, communication protocol, requirements, etc.

13. PR and communication

A comprehensive communication strategy will be essential to educate participants, stakeholders, fans, the media etc. that the main aim of the experiment is only to eliminate clear errors in match-changing situations and deal with serious ‘missed’ incident/offences i.e. **minimum interference – maximum benefit**

It will be extremely important to emphasise that:

- to ensure that the referee (not the VAR) is the key match official, **the referee will ALWAYS make a decision** (except a ‘missed’ usually ‘off the ball’ incident)
- a decision will **ONLY BE CHANGED** if the video review shows a **CLEAR ERROR** i.e. when the decision is considered clearly wrong
- the crucial question is NOT ‘was the decision correct?’ but **‘was the decision clearly wrong?’**
- everyone (all competitions, national FAs and FIFA) is using the same protocol - **‘one protocol – used by all’**

It will be very important to establish that the aim is not to achieve 100% accuracy for every decision as this would destroy the essential flow and emotions of the game which result from football being devoid of frequent lengthy stoppages. This will require justification for the limits established for the use of video assistance.

The underlying principles of the experiment and its conduct and analysis must be effectively communicated to the football world, including emphasising:

- There will be a number of testing phases during which advantages, disadvantages and difficulties will be identified, including potential worst-case scenarios.
- The experiments in testing phase 2 have been modified based on feedback from testing phase 1.
- The academic analysis will focus on the impact of reviews on refereeing and on the game itself, including the ‘flow’ of the game and the reactions, emotions and the behaviour of players, coaches, spectators and other stakeholders.

The restrictions and principles of the experiment should be proactively and effectively communicated to all stakeholders (teams, fans, media etc.), notably that:

- the VAR system is only to **correct clear errors in match changing situations** and serious missed incidents.
- a decision not to penalise (allow play to continue) can be reviewed

- **only the referee can initiate a review**, and only the referee will decide whether to make a decision based on information from the VAR or view the footage directly
- the review process is more easily undertaken when play has already stopped
- when play continues and a review becomes necessary, this may lead to complex situations if the referee does not have time or opportunity to stop play in a ‘neutral zone/**situation**’ e.g. a quick counter attack leading to a goal following a penalty incident in the other half of the field of play.
- **restart decisions cannot be reviewed** and decisions cannot be reviewed (except some red card offences) if play has restarted
- although yellow cards cannot be reviewed, they can be issued or rescinded following a review of a penalty, goal, red card or a ‘missed’ incident
- referees will be encouraged to keep the time a review takes to a minimum but, ultimately, the **accuracy** of the final decision is **more important than speed**

Experience in Japan demonstrated the need for competition organisers to have someone active ‘online’ on social media during each match to deal with issues/decisions/situations relating to the use (or non-use) of VARs

14. Glossary

Assistant Video Assistant Referee (AVAR)* – pronounced A-V-A-R – usually a current or former referee appointed to assist the Video Assistant Referee (VAR) especially to:

- watch the ‘live’ action when the VAR is undertaking a ‘check’ or a ‘review’
- keep notes of incidents etc.
- communicate the outcome of a review to the broadcasters

Attacking possession phase (APP) – the ‘starting point’ of the reviewable period of play for a goal, penalty incident or DOGSO offence. It is the start of the attacking move which led to the goal, penalty incident or DOGSO offence and, if relevant, how possession of the ball was gained at the start of that phase of play (but not a restart which began the attack)

On-field review (OFR) – when the referee decides to view the replay footage in the referee review area (RRA)

Referee review area (RRA) – ‘visible’ location outside the field of play where the referee can view replay footage

Replay operator (RO)* – person with technical knowledge who assists the VAR in the video operation room (VOR)

Review assistant (RA)* – person who assists the referee in the referee review area (RRA)

Silent check – when the VAR checks a decision/incident but has no communication with the referee (no clear error identified)

Video Assistant Referee (VAR)* – pronounced V-A-R – a current or former referee appointed to assist the referee to correct a clear error in a match-changing situation (or if a serious incident is missed) by communicating information from replay footage

Video operation room (VOR) – the room/area where the VAR, AVAR and RO etc. view the match and have independent access to, and control of, the broadcaster’s video replay footage. It may be in/near to the stadium or in a more central location (e.g. match centre)

** – the VAR, AVAR, RO and RA must be neutral in respect to competing teams*