

THE HOLIDAY

MAKERS

## THE FIFA TECH CHALLENGE

Welcome to the final Holiday Makers' challenge. We've partnered with the FIFA Technology Innovation Department for a challenge that's all about the amazing technology behind world-class football.

If you watched the World Cup, you'll know that VAR (video assistant referee) was something everyone was talking about. VAR helps referees make tough decisions in the heat of the game. It's just one of the ways engineering is changing football. FIFA engineers work on everything from football boot design to cutting-edge stadiums.

In this challenge we want you to think like a FIFA VAR engineer and decide where to place cameras around the pitch. First, you'll need to learn about the different cameras FIFA use, then you'll have to choose the best place to put them for a match.

When you've completed the challenge, share your design with us and you'll be in with a chance of winning a match ball from the FIFA 2018 World Cup!

**Good luck!**



# THE FIFA TECH CHALLENGE

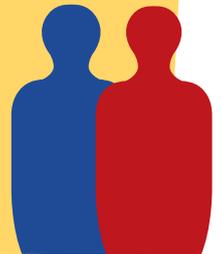
## MEET THE CAMERAS

These are all the different cameras engineers use at FIFA.



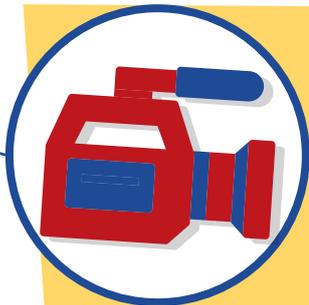
### Offside cameras

These cameras show offside positions. A player is caught offside if he or she is nearer to the opponent's goal than both the ball and the last player from the opposing team (not including the goalkeeper) when their team-mate plays the ball to them.



### Super-slow motion cameras

These cameras capture more images per second (higher frequency) so they can help with difficult decisions, especially in the penalty box. This can be used to look at players up close during a game. It is also used to show the slow motion video replay to spectators in the best quality.



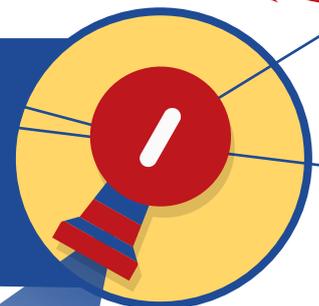
### High-resolution cameras

These cameras record a higher number of pixels (higher resolution) and therefore allow for the director to zoom in further and get a very close shot of a situation. This is useful for working out if there has been a foul.



### Spider-cam

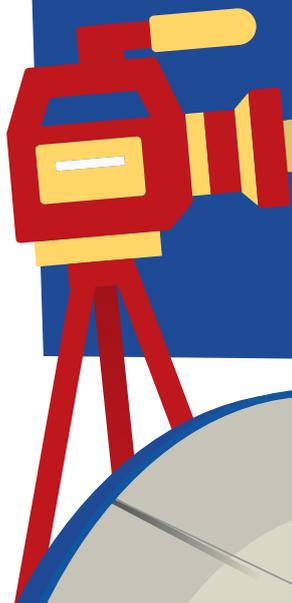
Suspended mid-air to give a bird's eye view of the game.



# THE FIFA TECH CHALLENGE

Each of the letters on the pitch below represent a camera position. The previous page contains information about what each camera does. Choose which type of camera you think would work best in each position, then write the letter or letters of the position underneath the camera name in one of the boxes below.

For example camera position **A** is where you would put a super-slow motion camera because it is able to provide us with slowed-down, close-up action in the middle of the pitch. We have already filled this in for you.

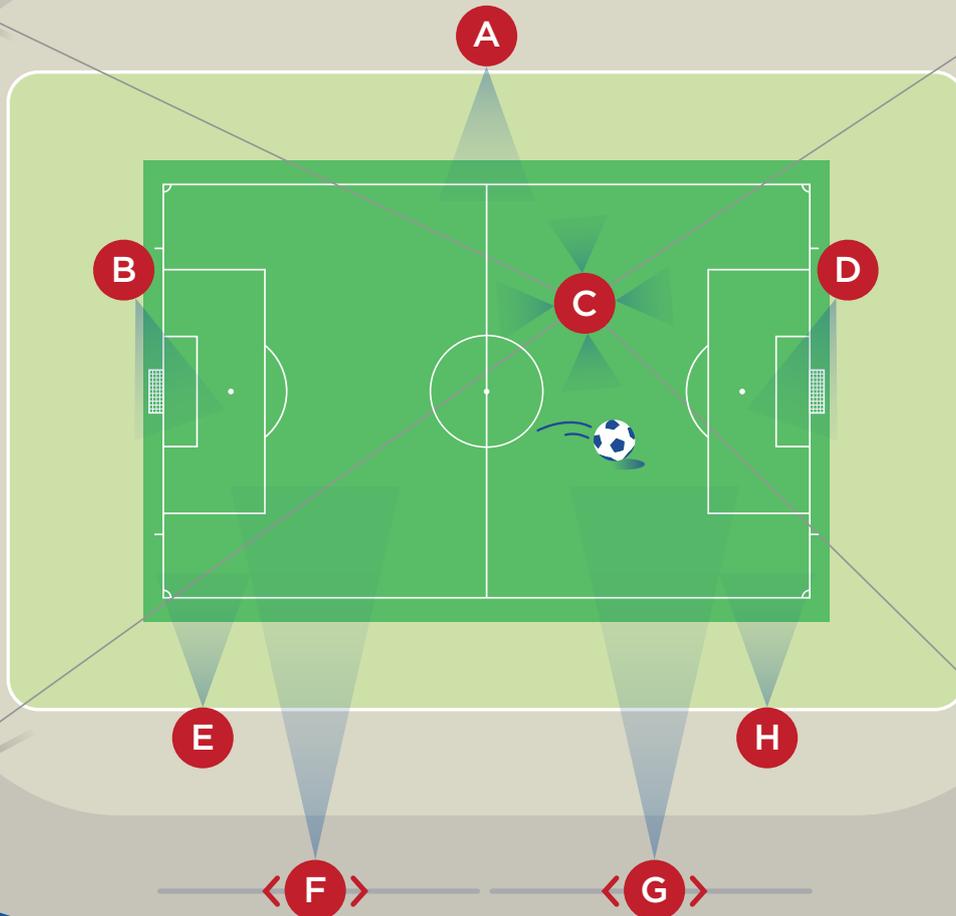


Offside cameras

High resolution cameras

Super-slow motion cameras

Spider-cam



## Enter our competition

Once you have completed your worksheet, make a video explaining your design or take a photo and ask an adult to share it on social media on your behalf by Friday 7 September for your chance to win an original match ball from the FIFA 2018 World Cup in Russia.



• **Twitter** – Include #TheHolidayMakers, @YoEgovuk and @FIFAWorldCup in the post

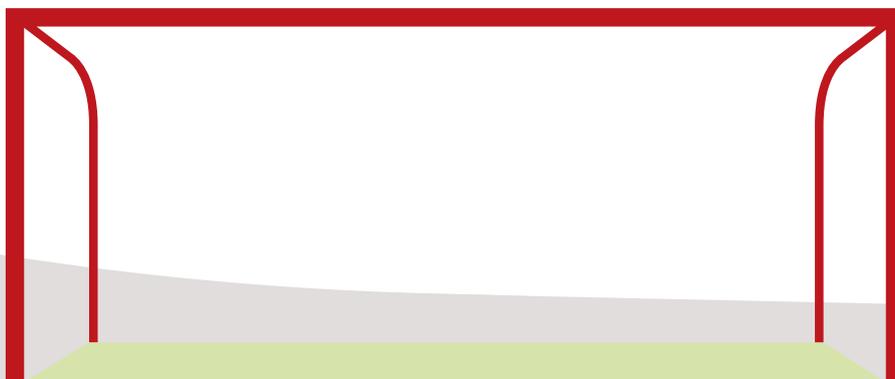
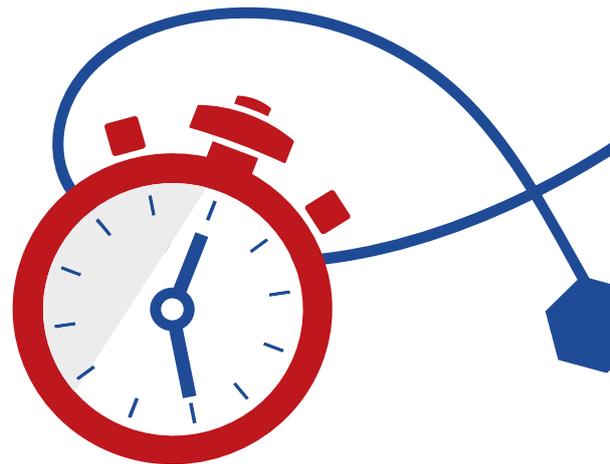
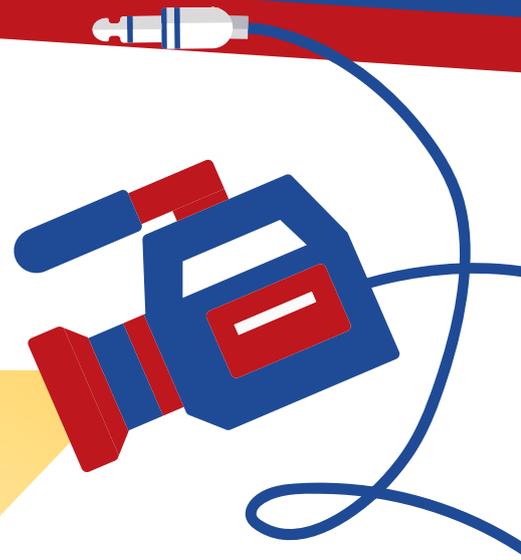


• **Instagram** – Include #TheHolidayMakers and @yearofengineering and @fifaworldcup in the post



• **Facebook** – Respond to the challenge on The Year of Engineering Facebook page including #TheHolidayMakers, @yearofengineering and @fifaworldcup

UK 18+ Share photo or video of your child's (aged 7-16) completed challenge during 24/08/2018 to 07/09/2018 by social media or email [theholidaymakers@dft.gov.uk](mailto:theholidaymakers@dft.gov.uk) to be entered into the prize draw. Prize is an Official World Cup Match ball from the FIFA 2018 World Cup in Russia. Winner selected by prize draw on 18/09/2018. Terms and restrictions on prizes apply see [www.yearofengineering.gov.uk/the-fifa-tech-challenge](http://www.yearofengineering.gov.uk/the-fifa-tech-challenge)



FIFA  
QUALITY

ENGINEERING  
TAKE A CLOSER LOOK