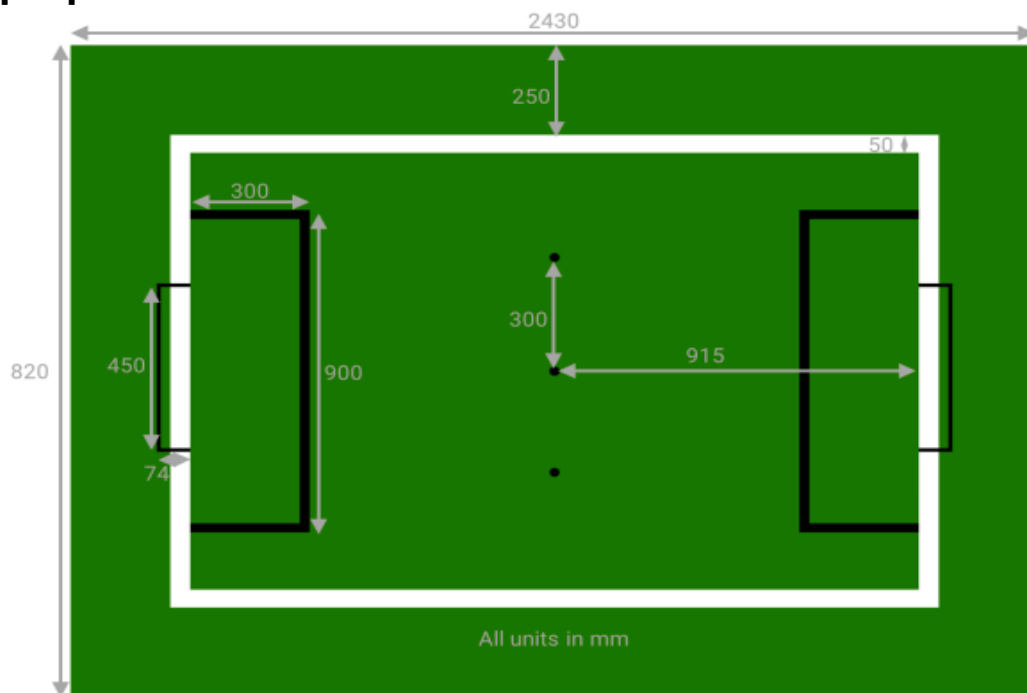




## Vasant Valley School TECHVVIZ 2025

### RoVVotics Rules and Regulations

#### Field Specifications



Element	Description
Field Size	2430mm x 820mm (can vary based on robot size)
Surface	Flat, non-reflective mat or wooden surface
Goal Post	Width: 450mm; Depth: 74mm
Ball	Standard Cosco ball
Field Markings	Center line, goal areas, penalty zones

All dimensions of the field have a tolerance of 5%.

**Note:** While all efforts will be made to construct the fields precisely, robots should be designed to allow for this tolerance.

## **Robot Specifications**

- Maximum Size: 25cm x 25cm x 25cm (before match start)
- Weight Limit:  $\leq 2$  kg
- Control Type: Autonomous or remote-controlled (wired or wireless)
- Power Source: Robots must be powered solely by batteries. At no time should the voltage anywhere on the robot exceed 24V DC. The battery must be completely sealed for safety.
- Sensors Allowed
- Safety Rule: No sharp objects or any components that can harm other robots

## **Restrictions**

- No deliberate damaging mechanisms
- No jamming or communication interference tools
- No high-speed projectiles

## **Pre-Event Submission Guidelines**

All participating teams are required to complete the following before the event:

Upload the following on the **Google Classroom Link**

### **1. Specification Document**

- Submit a brief document detailing:
  - Robot dimensions
  - Robot weight  $\leq 2$  kg
  - Power source used
  - Sensors/components involved
  - Control type (Autonomous / Manual)
  - Robot's code file
  - Ideation/ Specimen design of the Robot

## **2. Short Demonstration Video**

- Share a short video (30–60 seconds) showing your robot:
  - Powering on
  - Moving and detecting/responding to a ball or input
  - Any key feature in action

## **Pre-game**

- Teams must submit robots for pre-check
  - Inspection includes checking size, weight, and safety standards.
  - Robots not meeting criteria must be adjusted and rechecked.
- Declare control type (autonomous/manual)
- Teams will have access to the competition area for calibration and testing prior to the competition and according to a schedule that will be made available at the start of the event.
- Teams will get at least 3 minutes of setup time before each game.
- This time is also for teams to express any concerns about the legality of opposing robots.
- Keep emergency stop button available

## **Length of Game**

- The game will consist of two 3-minute halves.
- There will be a 3-minute break in between the halves.
- The game clock will run for the duration of the game (typically two 3-minute halves), without stopping.
- If a team does not report within 3 minutes of the scheduled game time, they will forfeit the game, and the winning team awarded a 3-0 score line.
- A game will end when there is a goal difference of 8 goals.
- Teams may elect to end a game early; however, they will forfeit the game, and the winning team awarded a 3-0 score line.

## **Start of Game**

At the start of the first half of the game, the referee will toss a coin, and the team first mentioned in the draw shall call the coin while it is in the air. The winner of the toss can choose either

- which end to kick to, or
- to kick off first.

The loser of the toss will decide the other option.

The team not kicking off in the first half of the game will kick off to begin the second half.

### **Team Composition**

- 2 Robots on the field per team. No mid game change of robot is permitted
- A maximum of 3 Human team members (two operators if remote-controlled)

### **Kick-off**

- Each half of the game begins with a kick-off.
- All robots must be located on their defensive side of the field.
- Robots must not be running and moving.
- The ball is positioned by the referee in the centre of the field.
- The team kicking off places their robots on the field first. Robots cannot be moved once they have been placed.
- All robots on the team not kicking off must have some part of the robot in the penalty box.
- On the referee's command, all robots will be started immediately.
- The robot kicking off must make a clear strike of the ball and it must roll clear of the robot by at least 50mm or the robot must start at least 50 mm from the ball.
- An illegal kick off will result in the opposing team being granted the kickoff.

- Any robots that are started before the referee's command will be treated as damaged.

## **Scoring**

- A goal is scored when the ball strikes the back wall of the goal. The referee will announce the goal.
- A goal will be awarded if a ball deemed to be traveling into the goal strikes a defensive robot that is touching the back wall of the goal.
- After a goal is scored, a kick-off will occur.
- The non-scoring team will be awarded the ball.
- "Own goals" will be treated as a goal to the opposition.

## **Lack of Progress**

The referee will call "Lack of Progress" in the following situations:

- a. It will be called if no robot has any chance of locating the ball in a reasonable amount of time.
- b. It will be called if the ball is stuck between multiple robots for a reasonable amount of time.
- c. It will be called immediately when a robot is using greater power to "force" the ball past the opposition than an opposition robot that is in its penalty box. If a referee is slow to remove the ball and a goal is scored as a direct result of a robot "forcing" the ball through, the goal will be disallowed.
- d. When Lack of Progress is called, any stuck robots will be freed using minimal movement by the referee or team captains at the request of the referee. Stuck robots should not be moved at any other time.

## **Damaged Robots**

The referee will deem a robot as "damaged" in the following situations:

- If a robot does not respond to the ball, it will be deemed damaged.
- If a robot remains in the goal area for longer than 20 seconds, or is stuck against walls or goals, and shows no indication of returning to the playing area, it will be deemed damaged.

- If a robot turns over and is unable to move, it will be deemed damaged.
- If a robot damages a ball or the field, it will be deemed damaged.
- If two colliding robots damage a ball, both robots will be deemed damaged.

## **Multiple Defence**

Multiple Defence occurs if more than one robot from the defending side enters the penalty area, takes up a defensive position and substantially affects the game.

## **Fouls and Penalties**

- If a robot continuously attacks or charges a robot not in possession of the ball, the referee will call "Foul!".
- The robot will be deemed damaged. If the robot continues to foul, it will be permanently removed from the game, a yellow warning sticker will be placed on the robot's and the referee will record the infringement on the scorecard.
- If a robot is damaged by a foul, the referee will stop the game and stop the clock for up to 1 minute while repairs are made.
- If a robot is removed from two games for "fouling", it will be disqualified from the tournament.

## **Free Kicks, Penalty Kicks and Offside**

There are no free kicks, penalty kicks or offside rules.

## **Humans**

In general, the movement of robots by humans is not acceptable.

Humans can only move robots at the instruction of the referee.

## **Tied Games**

Game play will not be stopped or interrupted.

- The game will continue as a "golden goal". As soon as a goal is scored, the game will end.

- If after three minutes, no additional goal has been scored, then only one robot from each team will be allowed on the field. Any team with two robots on the field must pick one robot to be taken off the field, then "golden goal" gameplay will continue.

## **Conflict-Resolution**

### **Referee**

- Referees' decisions are final
- Any argument with a referee's decision will result in a yellow warning card. If the argument continues, the referee will give a red card resulting in immediate forfeit of the game.
- If team captains are satisfied with the result of a game, they are to sign the score sheet at the conclusion of game play.
- Any protest after the game should only be if the scoring is believed to be incorrect, or if a game result is in doubt. After signing the score sheet, no protests can be lodged.
- Interference from spectators or coaches will not be allowed.

### **General Conduct**

- A robot may not hold or trap the ball in any way, including stopping it from rolling or restricting access to it. The ball must remain free to move and cannot be held underneath or fixed to the robot.
- Respect all participants and officials
- Follow time schedules strictly
- Clean up after matches