

TweakTrack

1. The Challenge

The challenge of the competition is to make a robot that can move on white lines on a black background and reach the finish desk as soon as possible with maximum score.

The competition area has is a special place defined for the robot's operation (hereafter COMPETITION FIELD).

The participants must create an autonomous vehicle (hereafter ROBOT), that will move on the COMPETITION FIELD and do certain tasks.

The ROBOT which will start on the START desk and reach the FINISH desk block by following the white lines.

1.1. Definitions

1.1.1. Race clock

There are optical sensors that detect the robot's start and stop movement.

When the robot starts off from the START desk, the timer automatically starts to count the race time.

As the robot reaches the FINISH desk, the timer automatically stops and the recorded time value is saved.

2. The Field

2.1. Field specifications

2.1.1. The COMPETITION FIELD consists of both 2D and 3D. A model final arrangement of the track will be revealed before 2 days the competition day.

2.1.2. Width of track will be 22cm and Width of white line will be 22mm.

2.1.3. All measurements and dimensions have 10% tolerance.

2.1.4. The background color for Track is black with lines and signs in White.

2.1.5. Lines to be followed are 22mm in width and are White.

2.1.6. The 3D track will consist of ramp and curves of maximum slope of 30 degree. There is no extra electronics required for 3D path.

however Competitor can use any onboard electronics if they require and no any extra time will be given for instalation.

2.1.7. There will be one START tile and one FINISH tile in the entire field.

2.1.8. The organizing committee have rights to make changes in above rule.

2.1.9. Judges decision will be final.

3.1. Control

3.1.1. The robot must be controlled autonomously with no human aid.

3.1.2. The controller unit should be embedded in the robot and cannot be placed outside the robot.

3.1.3. The robot must be started manually with a start button fixed on robot.

3.2. Power Source

3.2.1. The robot must be powered by a onboard dc battery or adaptor.

3.2.2. The Robot cannot be powered by a stationary power source connected to the robot by a cord.

4. Scoring

RACE TIME is the time considered for tracing the route from START to FINISH. Point will be provided if they succesfully clear the path.

primary selection will be based on Points while time criteria will be used if any teams will get equal Points.

5. Rules & Fouls

5.1. The robot violating any of the rules described above will be disqualified from the competition or forced to restart the robot from the START.

5.2. Any kind of touch by a human which affects the robot direction or speed will cause a fault state and force the team to restart from the START.

6. Code of Conduct

6.1. Fair Play

6.1.1. Robots that cause deliberate interference with other robots or damage to the field will be disqualified.

6.1.2. Humans that cause deliberate interference with robots or damage to the field will be disqualified.

6.1.3. It is expected that the aim of all teams is to play a fair and clean game.

7.1. Behavior

7.1.1. Participants who misbehave may be asked to leave the competition area and risk being disqualified from the contest.

7.1.2. The rules will be enforced at the discretion of the referees, officials, and local law enforcement authorities

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